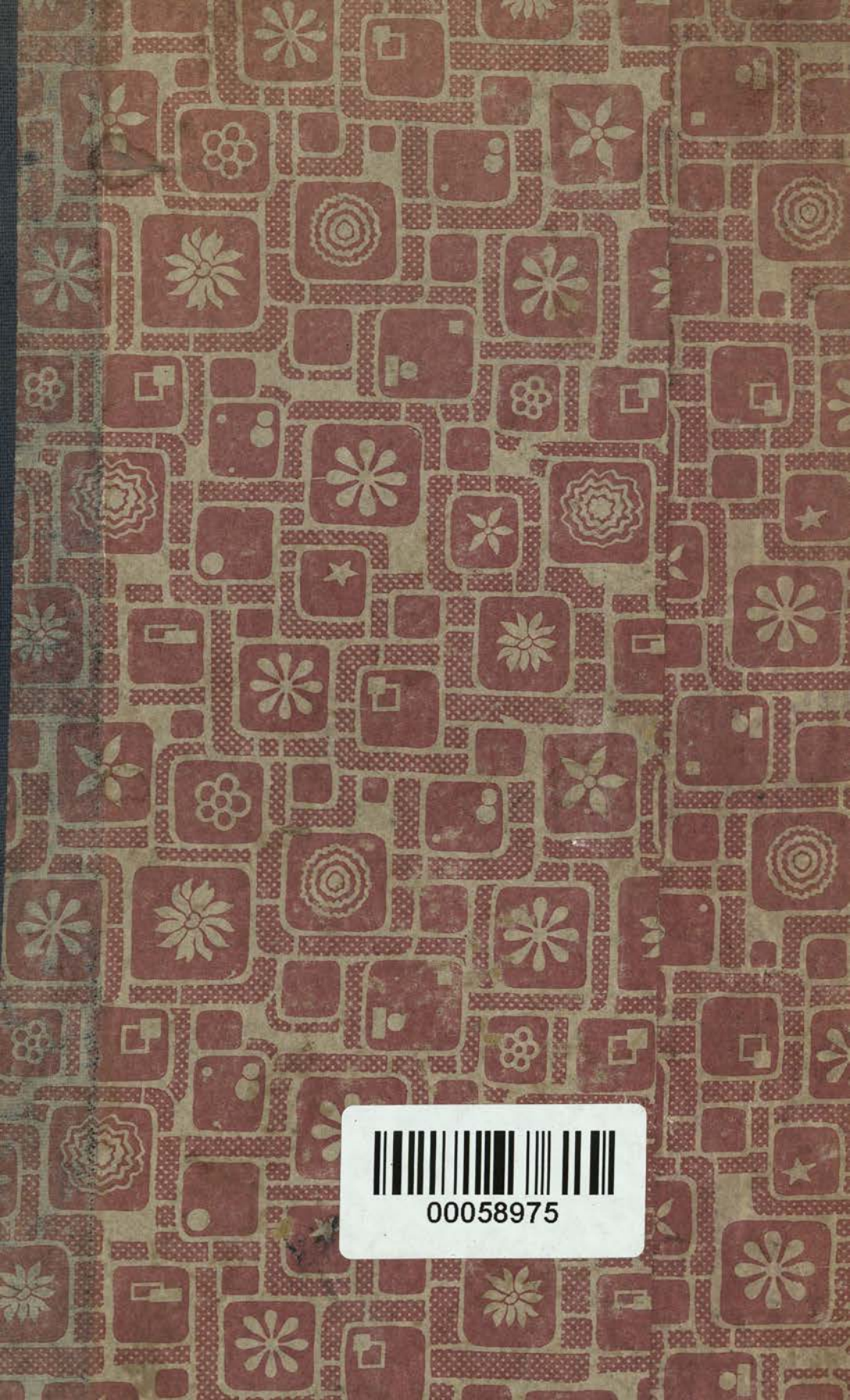
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THE HIMÁLAYAN DISTRICTS

OF THE

NORTH-WESTERN PROVINCES.

VOL. III.

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Adbadri, a halting-place between Lohba and Karnprayág, is situate in patti Síli Chandpur of parganah Chandpur in British Garhwál in latitude 30°-9′ and longitude 79°-16′10″ : distant 10 miles 7 furlongs and 2 poles from Lohba and 10 miles 5 furlongs from Karnprayág. There is an encamping-ground and *dharmsála* (rest-house) here. The road from Lohba or Gairsen gives off a branch there to Náráyanbugur on the Pindar river and itself crosses the Diwáli range (7,963 feet) by the Diwáli-khál at an elevation of 7,010 feet above the level of the sea. Near the pass are the remains of a fort and the ridge forms the waterparting between the Rámganga and the Pindar. The road thence follows the right bank of the Bhararigár by the villages of Málsi and Kheti to Adbadri. The road is good and passes through beautiful scenery. On the right are the Kandal (8,553 feet), Sailídánda (8,936) and Bintáí (8,300) peaks, and on the left the Diwáli (7,963 feet) and Beri (5,479) peaks. Just above Adbadri is the small lake of Beni Tál, where there is a tea-factory.[1] At Adbadri are the remains of sixteen temples similar to those found at Dwárahát with the usual Turk's cap ornament. One dedicated to Badrináráyan is still used for worship, and the people say that in a few years' time the road by Joshimath to Badrináth will be closed by the meeting of the opposite hills near the temple, and that then this temple will be the object of pilgrimage. The other temples, too, are used in a lesser degree for worship. They are all crowded together in a space of about 42 by 85 feet and vary in height from 6 to 20 feet. The principal temple is distinguished by a raised platform or chabútra in front, roofed in and leading to the small square enclosure

[1] *See* Gaz., XI., 784.

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of the usual pyramidal form, within which is the idol itself. The solitary occupant of the temple at my visit was a Brahmachári fakír from Midnapur in Bengal who had taken up his residence there for some five years. Local tradition here assigns the building of the temples to Sankara Achárya, the celebrated reformer and Hindu philosopher, while in Kumaon the same style of building bearing traces of similar antiquity is attributed to the piety of the Katyúra Rajas.

Aglar, a patti of parganah Rámgár in Kumaon, is bounded on the north by pattis Mahryúri Bichhli and Kotauli Tallí; on the east by Mahryúri Bichhli; on the west by pattis Rámgár Mallá and Tallá and on the south by Mahryúri Tallí. This patti comprises nineteen villages having an area of 1,825 *bísis*, of which 574 are culturable and 1,251 are cultivated (only three irrigated). The assessment in 1815 was Rs. 1,309; in 1820 was Rs. 1,148, and in 1843 was Rs. 1,122. The present assessment amounts to Rs. 1,522, which falls on the total area at 13 annas 4 pies per acre and on the cultivated area at Rs. 1-3-5. The population at the time of last settlement numbered 2,995 souls, of whom 1,550 were males. It is chiefly inhabited by the Agari caste of miners who give their name to it.

Agaspur, a village and halting-place on the route by Másí from Pácri to Almora, is situate in patti Chaukot Bichhla of parganah Páli in Kumaon in latitude 29°-52′-15″ and longitude 79°-13′-18″: distant 12 miles 1 furlong 22 poles from Kúnjoli and 12 miles 3 furlongs 33 poles from Másí. The road from Kúnjoli on the left bank of the Pachrár-gádh, a tributary of the Eastern Nyár on the right bank, passes to Baijiráu on the road from Kainúr to Rámnagar, and here crosses the Nyár by a bridge of 62 feet span, thence a short level, rise and fall leads to the ascent to Chyúrkot-khál or pass and thence to Saráikhet-khál on the borders of Kumaon and Garhwál 7 miles 7 furlongs 33 poles. Several streams are passed on the way to Jamuri-khál, whence a level road leads to Agaspur Dya, 4 miles 1 furlong 29 poles. The road is a good one throughout and is much used by all the inhabitants of southern Garhwál.

Aglár, a small river which rises on the northern declivity of the Surkanda peak in latitude 30°-25′-25″ and longitude 78°-29′ at an elevation of 7,130 feet above the level of the sea in patti Dasjyúla of parganah Jaunpur in Native Garhwál, and thence flows

rapidly to the westward through a deep and narrow valley, and after a course of about twenty-three miles falls into the Jumna on the left bank, near the Jaunpur fort, in latitude 30°-30′-55″ and longitude 78°-2′-50″.

Ajmer, a patti of parganah Ganga Salán, is bounded on the east by patti Tallá Sílá of parganah Tallá Salán, on the south by the Kotri Dún and the Bijnor district, on the west by the Udepur pattis and on the north by the same pattis and Dhángu. A road from Kotdwára to Srínagar runs just within its eastern boundary, passing by Charekha, Dúni and Malníya, at the first of which there is a ruined bungalow. Other villages are Mathána, Kanda, Buli and Utúrcha, connected with the Kotdwára road by a cross path; Naphaldi, Juda-Ráwalyál and Manjyári to the north and Mawakot to the south, also connected by a path with Kotdwára. Simalna lies to the south-west: there is a school at Gúm. In 1864 six villages were received from Karaundu. The patwári of Ajmer usually resides in Ghota of patti Sílá Tallá and collects the land-revenue of that patti also; in 1864 the revenue of both aggregated Rs. 2,146. Charekha travellers' bungalow lies in longitude 78°-37′ and latitude 29°-49′.

Alaknanda, a river in British Garhwál, formed by the junction of the Dhauli (western) and Vishnuganga at Vishnuprayág in parganah Painkhanda.[1] At the confluence, the Dhauli has a breadth of about thirty-five or forty yards with a rapid current, and the Vishnuganga a breadth of twenty-five or forty yards also with a rapid current. The elevation of the confluence above the sea is 4,743 feet. The united stream flows south-west to Chamoli, receiving the Rudr, Garúr and Pátal Gangas and the Birhi or Birahi-ganga at Birhi. Thence, in a southerly direction, to Nandprayág, where the Nandákini joins it from the east in latitude 30°-19′-56″ and longitude 79°-21′-29,″ at an elevation of 2,805 feet above the level of the sea. Again it turns south-west to Karnprayág, 45 miles from Vishnuprayág, where the Pindar joins it on the left bank in latitude 30°-15′-45″ and longitude 79°-15′-29,″ with an elevation of 2,600 feet. Thence nearly due west to Rudrprayág, 19 miles, where it receives the Mandákini from the north on the right bank in latitude

[1] *See* Gaz. XI., 292, 307, 321, 347.

30°-17′-10″ and longitude 79°-1′-32″ at an elevation of 1,980 feet. Turning again now south-west it flows by Srínagar to Deoprayág, 37 miles, when it is joined by the Bhágirathi from Tihri in latitude 30°-8′-45″ and longitude 78°-38′-56,″ with an elevation of 1,953 feet, after which it is styled the Ganges. At one place called the Kákar's leap from the tradition of a *kákar* or barking deer having jumped across it, the river narrows to about 25 feet and rushes through a cut in the rocks which rise at least 500 feet perpendicularly on either side, opening out into an immense and deep pool. From this point, which is about four miles above Rudrprayág, the fall is not so great and the general appearance is long reaches with short rapids until it reaches Deoprayág. At this place a huge mass of rock appears to have fallen into the stream, narrowing it to half its proper breadth just before it is joined by the Bhágirathi. On the top of this rock some fifty feet above the river is a rope bridge leading from British Garhwál to Deoprayág, which is in Native Garhwál or Tihri, and so much does the river rise in the hot weather and rains that this bridge is frequently swept away. At the confluence the Bhágirathi rushes with great force and rapidity down a steep declivity, roaring and foaming over large rocks scattered over its bed. Its breadth is 112 feet and it rises 40 feet during the melting of the snows. The Alaknanda flowing with a smooth unruffled surface gently winds round the point of confluence. It is 142 feet in breadth and rises 46 feet at the same period. The breadth of the united stream is 240 feet. The Alaknanda abounds with fish, some of which are four or five feet in length. The maháser (*soher, shahur*) is found weighing up to 80 pounds, and the dog-fish or *ashiála* and *kálábans*, a species of barbel. Gold in small quantities has been obtained by searching the sands of this river, but the remuneration resulting (about four annas a day) has been so scanty that the search is nearly discontinued. There are four iron bridges over the Alaknanda, a tie-bridge at Chamoli, and iron suspension-bridges at Chhatwa-pípal Rudrprayág and Jákhni, one and a half miles below Srínagar on the Almora and Tihri road. The last named is 301 feet span from saddle to saddle. From Joshimath downwards the stream is used for the rafting of timber. There are several fine forests of *Smitheana*, *Webbiana* and *excelsa* firs on its eastern bank from Rudrprayág to Pípalkoti. Below this *chír* pines occur up the Nighaul

valley opposite Nandprayág, on the slopes of the Nágpur hills opposite Chhatwa-pípal at Pokhri and as far as Dhari near Srínagar.

Almora[1], the head-quarters of the Kumaon Division in patti Khasyurja of parganah Barahmandal of the Kumaon district, is situate in latitude 29°-37′-3″ and longitude 79°-40-′20″, by the lower road 30 miles from Naini Tál, 46 miles from Káládhungi; it is 19 miles from Ránikhet. The town and the civil and military station are built on a bare saddle-shaped ridge running north-west to south-east for about two miles with an elevation varying from 5,200 to 5,500 feet. The jail stands at about 5,439 feet and the church at 5,495 feet above the level of the sea. The station is connected with the higher ridges of Simtola and Kalmatiya to the west by a *col* called Mount Brown or Híradhunga, so called from its micaceous rock which shines like a diamond (*híra*) in the morning sun. Kalmatiya has an elevation of 6,414 feet above the level of the sea, and Simtola an elevation of 6,066 feet. The building known as Simtola house lies in latitude 29°-37′-3″ and longitude 79°-43′-21,″ with an elevation of 6,200 feet. A lateral ridge called Sitoli runs westwards from Híradhunga towards the Kosi river and exactly faces Almora to the north. The intermediate space is crowded with houses and cultivated terraces and possesses a small stream which rises in a spring under Híradhunga, called by the natives Ráni-dhara and by the Europeans St. Ronan's Well. On the east and south the Almora hill is bounded by the Suwál river and on the west by the Kosi, so that it is almost a peninsula connected with the other hills by the Kalmatiya ridge. To the south-west the ridge after attaining its highest point of elevation at Charalekh dips down in a bold and rugged series of masses to the point of junction between these two rivers. The ascent from the bridge crossing the Suwál and the Sukuni (Gorari) near their junction on the Naini Tál road is exceedingly steep and trying, especially in the hot-weather, when the heat reflected from the bare gneiss rocks and the white dust from the road alternately roast and blind the traveller. After passing the leper asylum and the Charalekh bungalows a very pretty Gothic church is reached, erected under the superintendence of Captain Weller and now under the ministration

[1] The name is said to be derived from the *Almora* or wild sorrel (*Rumex hastata*), which grows in abundance on the hill. The Chand Rajas always called it Rajapur in official documents: *see* Gaz., XI., 534, 539, 550, 570, 587.

of the Naini Tál chaplain, who visits Almora once a month. Close by and around are the residences of the European community and Fort Moira, otherwise called *Lál Mandi*, and the parade-ground. The Kumaon battalion was formerly posted at Hawálbág in the valley of the Kosi about five miles north of the present cantonments, but that has long been abandoned as a military station and the Kumaon battalion is now represented by the 3rd Gorkha regiment, who garrison the fort and supply a strong detachment to Pithoragarh under the command of a Native officer and guards to Naini Tál and Ránikhet.

The sepoys' lines dip down from the fort on the north-east and the officers' houses lie to the west and north. Between these and the town is the small Mission chapel with a Grecian portico and inscriptions in raised letters in Hindí. Then commences the town. The principal street is paved with stone flags and is about 30 to 50 feet in width and about three-quarters of a mile in length, divided into two bazars by the old fort and new Mission school. The slope from east to west is broken by flights of stone steps which render the street not easily passable for ponies. The houses are from two to four stories high and are substantially built of mica-slate and roofed with thin slabs of the same material. The upper stories are, however, usually constructed of wood quaintly and profusely carved and some bear decorative lamp-rests of deer's antlers. The windows are mere apertures for the most part resembling pigeon-holes cut in the wooden panel and closed by a slide. The general appearance of the town is compact and clean and the conservancy arrangements seem to be well carried out. Beyond where the north-eastern gate was, rises the old fort Almora, in the enclosure of which are situated the treasury and civil courts. An engraving of this is given by Tieffenthaler in his travels undertaken during the middle of the last century. Beyond this the top of the ridge is somewhat hollowed out and the space is occupied by a bazar, the office of the sub-collector of revenue and the Lala Bazar. Here also, on the site of the former residence of the Rajas of Kumaon, is the new Mission school. This school, opened in 1871, is a fine building in the Tuscan style, with a central hall 60 feet by 34 feet and a wing on each side containing four spacious class-rooms. The lofty roof of the hall ends in a portico supported by massive stone pillars.

The entire building is of solid masonry and the pediment and frieze have carved inscriptions in English and Hindi. The plan is due to Captain Birney, R.E., who also supervised the erection of the building. The dispensary is close at hand and then the road ascends towards the site of the Marchkilah or St. Mark's tower, a building long since pulled down. On both sides of the town on the north-western and eastern slopes, the hill side is adorned with very fine substantial isolated native houses and also villages embosomed in orchards of *túm*, walnut, cherry, Australian jack and apricot. The eastern side is less wooded owing to the greater steepness of the mountain face. There are several Hindu temples in Almora, but none with any pretensions to architectural merit; and there is only one mosque.

For a distance of about four miles around Almora on every side the hills are absolutely bare, but beyond that distance the mountains are as well timbered as any in the central parts of the district. Tradition has it that deodár trees were once plentiful on the north-west face of the hill, but from the nature of the soil it is improbable that these forests were ever extensive. The tradition regarding the transfer of the Chand capital here also points to Almora as being then covered with timber. The oaks on Kalmatiya are of a stunted growth, and the pines only attain a respectable size on the northern aspect of the range. Deodárs grow well when planted and many of the old houses are built of the wood of this tree, which would so far bear out the tradition.

Climate.

Sixty degrees is about the annual average temperature of the air. In the hot weather, from May to 1st July, the climate of Almora, though at that season from 15 to 20 degrees cooler than in the neighbouring plains, approaches to a tropical type. Pankhas and tattis, however, are not required, and the thermometer (except for a few hours on some hot days before rain) can be kept down in a closed house to 74°. Whenever it exceeds 86° in an outside shaded verandah, rain or a thunder-storm may be expected, which sometimes at once reduces the temperature to 62°. In the rains 72° may be considered the average temperature, and at that season, which is very pleasant at Almora, though not cold and requiring fires as at Simla and Mussoorie, the range of the temperature is rarely 2°.

Midnight and midday in a cool room show the thermometer, in July and August, often for days together, at 72° or 73°. Outside in the shade the range rarely exceeds 10°. In winter, snow falls occasionally, but rarely lies beyond a few hours on the ground. Different years display different phenomena in regard to this matter: for instance, on December 11th, 1841, snow covered the ground at the level of the Kosi and Suwál rivers (3,700 feet); on December 31st, 1842, rain fell for hours, yet the Gágar range at 7,500 feet above the sea was without a particle of snow. Snow is most frequent in February, taking a number of years. October and November are beautiful clear cold months, and most of the fruit trees then lose their leaves. March and April are generally marked by thunder-storms, but in all the summer months, till the regular monsoon rain falls, a thick atmospherical haze prevails which obscures all the view. This haze, however, is common to the whole hills and is as dense near the snows as at Almora. The towns-people of Almora are for the most part very healthy, and the state of health in the cantonments, where, sometimes, the sepoys suffer considerably, especially during their first seasoning to the climate, is no criterion of that of the town. Fever and dysentery seem to be the prevailing fatal diseases among the natives; and colic is often rapidly fatal, especially in the fruit and vegetable season. The bad fever of the typhoid form (*mahámari*) has not occurred at Almora.

At Almora in the rains, wild hemps, nettles, thistles, wormwood, *Mirabilis jalapa* (marvel of Peru), mint, *dhatúra*, and wild balsam, &c., spring up and produce a rank vegetation, but it is less grown over than most other hills, owing to the dryness and shallowness of the soil above the solid rock. Madden[1] has given a full account of the botany of Almora which has been incorporated in a previous volume[2]. Micaceous schists of four different kinds according to their degrees of hardness and crystalline character, and according to the greater or less proportion of quartz, is the rock at Almora. On the descending ridge to the Suwál and Kosi on the south-east and south-west points, a great out-burst of granite prevails, which is connected with the eruptions of the same rock in an easterly and westerly direction at Kainúr, Dwára, Dol, Devi-Dhúra and Champáwat, always at a distance of about 40 miles from the plains.

[1] J. A. S. Ben., 1848. [2] Vol. X., Gazetteer.

The decomposition of the feldspar causes the characteristic boulder-looking masses on the hills. Some of the granite however is compact and beautiful, especially near the gneiss strata out of which it is erupted, and the graphic variety is singularly so. Some of the mica slate strata and quartz veins show signs of great disturbance, as the Almora ridge approaches these granitic developments—and the hill sides in this direction (the south-west and the south-east) are uncommonly barren, rugged, and, to a fastidious eye, ugly.

Almora is peculiarly fitted as a resort for consumptive patients, but for other invalids the temperature is too high during May and June and does not give sufficient coolness to those who seek an invigorating climate after exposure to the heat of the plains ; this, too, is enhanced by the almost total absence of shade. The supply of water is of an unusually good quality; springs abound on either side of the ridge within 300 feet of the crest and most of them within 150 feet of the top. That near the tank is directly on the crest of the ridge. In the hotter months some of the springs dry up or give a scanty supply, but taking the whole hill and putting aside the conventional distribution of the wells among the different castes, the general supply of water is nearly always sufficient for all purposes. A covered reservoir with a spout is the form usually given to these wells. All the springs rise in mica slate or quartzose veins which are numerous, and although on the Kalmatiya ridge traces of iron and graphite are observable, ferruginous matter has not hitherto been detected in the Almora waters. They are always cool and refreshing to the taste. In addition to the springs a never-failing supply of water is obtained by two aqueducts from Simtola. Almora is connected with Ránikhet by a new cart-road constructed in 1872-73 and a bridle-road by Hawálbág up the valley of the Náná Kosi, and thence by Tallá Ryúni to the eastern spur of the Ránikhet ridge, whence it is again nearly level to the dák bungalow, 19 miles from Almora. The road by Dwárahát to Garhwál follows the same route to within nine miles of Ránikhet, then on to Bhainskhet, where there is a bungalow (see BHAINSKHET). The Baijnáth and Nandprayág road follows the Kosi valley from Hawálbág to Someswar, where there is a bungalow, 18 miles from Almora. The Bágeswar road proceeds by Tákula, where there is an encamping-ground 12

Roads.

miles from Almora ; the road is winding and high, lying along the upper ridge of the hills with one steep descent to Tákula. A second road passes by Binsar to Bágeswar. To the east roads lead by Panuwa Naula bungalow, 16 miles from Almora to Pithoragarh, and by Devi Dhúra to Lohughát. Naini Tál is reached by Piura on the upper road 8 miles from Almora and thence Rámgár bungalow 10 miles and Naini Tál 13 miles ; by the lower road, which is exceedingly hot and feverish, during and after the rains the Khairna bungalow is 18 miles from Almora and Naini Tál, 12 miles from Khairna. The latter half of the lower route consists of a steep ascent along the western slopes of the Lariya Kánta ridge to the St. Loo gorge overlooking the lake.

Population.

In 1872, the total native population numbered 5,884 souls distributed as follows :—Christians, 35 : Hindús, 3,972 : Muhammadans, 755, and Doms, 1,121. The ironsmiths (114), carpenters (251), masons (255), potters (111), mochís (73) and telis or oilmen (20) are all Doms, a low caste of Hindús. There were 745 Joshis, 195 Pants, and 1,404 other Brahmans. The Baniyas numbering 797, and the Sonárs 264, represented the trading classes. These figures include women and children and represented 170 castes and trades. Of the above, 4,811 souls lived within municipal limits. The population of the municipality in 1881 was 4,813, of whom 2,264 were females, and at the same time the population of cantonments was 920, of whom 264 were females. The population of the town during the same year, including Municipality, Cantonments, and Civil Station, was 7,390 (2,867 females), comprising 6,323 (2,451 females) Hindus ; 866 (317 females) Musalmáns, and 209 (103 females) Christians and others. In September, 1880, the total figure was 7,124. The múhallas or wards of the town are Lachhmeswar, Karariya-khola, Kapína, Galli, Chaunsár, Gurani-khola, Champanaula, Kholta, Deuripokhar, Chhipaltharha, Thapaliya, Chaugánpátha, Joshi-khola, Sela-khola, Chaudhri-khola, Siumerkot, Paniya-udiyár, Pokhárkháli, Jhijhiyár, Jyár, Makirhi, Chínakán, Dharanaula, Tiunera, Khasiya-khola, Dániya, Nál-khola, Dabkiya, Kugar, Dhagal-khola, Domtola, Lalabazar, Kárkhánah, Nakarchitola, Salímgarh, Sonárpatti, Banskigalli, Chhakála, Tirana-khola, Tamteura and Dhobikhola. The word '*khola*' in the termination of the names of the

wards is equivalent to the '*tola*' and '*pura*' of the towns of the plains. The names sufficiently explain their origin and are derived from the caste or trade of the occupiers or founders or from some remarkable person or object.

There are several good shops at which European supplies can be procured, but no large market, and but little trade since the Bhábar marts at Káladhúngi, Rámnagar, Barmdeo, and Haldwáni and the bazars at Ránikhet and Naini Tál have come into existence. The municipality was formed in 1864, but the income is only about Rs. 5,600 per annum. The receipts of the Almora Cantonment fund amounted to Rs. 308 during 1882-83 and the expenditure to about the same. The greater portion of the grain used is brought on ponies from the Bhábar, whilst the produce of the upper parganahs is disposed of to the Bhotiyas. Wood for local consumption is brought in from distances varying from six to eight miles chiefly by women, who here, as at Naini Tál, form the chief portion of the cooly population.

Amongst the local institutions are a station library, reading-room and racquet-court, and a native debating society and library established in 1870 by former pupils of the Mission School, who have a library, printing press, and a fortnightly newspaper of their own. There is also a branch of the London Mission here and at Ránikhet, and of the American Mission at Naini Tál and Páori in Garhwál. Schools have been opened at Pithoragarh, Champáwat, and Gangoli Hát, and the character of the instruction given is shown by the success of the pupils at the usual examinations and their appointment to posts of considerable value in the public service. The leper asylum is another of the charitable organisations of Almora well worthy of extended support. In 1884 it contained 114 inmates, of whom 69 were Christians. These come from all parts of the hills, including Nepál. The asylum possesses a neat row of barracks and a pretty little church, at which divine service is performed every day.

The history of Almora has already been told in the history of Kumaon. The real reason for the abandonment of Champáwat was doubtless its distance from the recently conquered and far more valuable possessions to the wast. Madden notices the legend

that Kalyán Chand was hunting in the forest which then covered the site of Almora when a hare chased into a thicket became a tiger, which was considered so good an omen that the Rája forthwith selected the spot as the site of his future residence and promised that whoever dared to hunt any of his race should soon discover that he had tigers to deal with. At Sitoli close by Almora was fought the decisive battle which ended in the cession of the whole division to the British in 1815. Since then Almora has more than regained its former prestige as the head-quarters of the Civil administration.

Ambári, a village in the western Dún, on the road from Saháranpur to Chakráta, close to the Jumna 26 miles from Dehra. It is the site of a tea-plantation and has a Public Works bungalow.

Amsot, a village in the Dehra Dún district, lies in latitude 30°-22′-45″, and longitude 77°-43′-42″, at an elevation of 3,139·8 feet above the level of the sea. The upper markstone of the Great Trigonometrical Survey station is situated on the highest point of the same range as Dhoiwála. Timli is the nearest village, being about three miles to the north-east. This height was deduced trigonometrically.

Annfield, a village in the western Dún, two miles from the Jumna. It is the site of a tea-plantation and an agricultural colony of Native Christians established by the Revd. T. Woodside in 1859 and now a flourishing settlement, self-supporting and containing a church and school.

Asan, a river of the western Dún, rises in the ravines near Harbanswála to the west of the Mohand and Dehra road at an elevation of over 2,000 feet and after a north-westerly course of about 26 miles falls into the Jumna below Rájghát. This stream receives no tributaries except mountain torrents from the Himálaya on the north and the Siwáliks on the south, and is only noticeable as being the main drainage channel of the western Dún.

Asarori, a police out-post in the western Dún at the northern foot of the Mohand pass on the Dehra and Mohand road.

Asi, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by patti Chálsi; on the east by Pharka and Sipti; on the south by Talla Pálbelon and on the west by Malli and Talli Ráu.

This patti was separated from Asi-Chálsi or Chálisi at the recent settlement. The principal villages are Gúm, Garhsári, Hauli, Jaulárhi and Páti.

The assessable area comprises 2,695 *bísis*, of which 1,002 are culturable and 1,693 are cultivated (156 irrigated). The land-revenue gave Rs. 484 in 1815, Rs. 785 in 1820, Rs. 1,148 in 1843, and now is assessed at Rs. 2,091, which falls on the whole area at Re. 0-12-5 and on the cultivation at Re. 1-3-9 per acre. The population at settlement numbered 1,947 males and 1,638 females. Three villages were received from Pálbelon and one from Sipti at the recent settlement. The villages are numerous and highly cultivated and on the higher ranges produce good crops of hemp.

Askot Mallá, the upper patti of parganah Askot in Kumaon, is bounded on the north by pattis Goriphát and Tallá Dármá; on the west by patti Díndíhát of parganah Síra; on the east and south-east by the Káli river, which separates it from Nepál, and on the south by Tallá Askot. This patti was separated from Askot at the recent settlement. For its statistics see ASKOT TALLÁ. In connection with this patti, however, mention may be made of the Rájis the *ban-manus* or wild men of the woods as they have been called, who inhabit the forests of Chhipula. Askot is said to have had originally eighty forts, and hence the name. The first of these was Champáchal or Lakhanpur Kot, near which are the remains of the old town of Bagrihát. The Rájbárs are Katyúris and held sway over the Bhotiya valleys from Juhár to Byáns, subject to the Raika Rajas of Doti. On Champáchal there is a temple to Mahádeo where offerings are made to the sylvan deities by the Rájbár, and on Chhipula or Najúrkot there is a great cave at which a fair is held every year, also a dry pond held sacred to the deity of the hill.

The ghát here is the only direct communication with lower Kumaon for Dhárchúla, Kela, Chaudáns, Dármá and Byáns.[1]

Askot Tallá, a patti of parganah Askot in Kumaon, is bounded on the north by the Mallá patti of the same parganah; on the west by the Athbisi Mallá and Bárabisi pattis of parganah Síra; on the south by the Kharáyat and Kharkdes pattis of Shor, and

[1] *See* further Gaz., XI., 365, 449, 455, 494, 527, 531.

on the east by the Káli river, which separates it from Nepál. The Bagrihát, Charma and Shangli *gárs* or streams flow eastwards into the Káli nearly parallel to each other. Daoda is situated at the confluence of the last with the Káli; Dhawalisera at the mouth of the Charma and Bagrihát on its own stream. The road from Lohughát *viâ* Shor to Dármá passes through the western corner of the patti and has the villages of Mithála, Maláhu, Ulma and Jethgaon on it. To the south-east of Ulma, Larilekh rises to a height of 6,031 feet, and between it and Bagrihát the country slopes down and is more open and occupied with villages like Shúnkot. The valleys of both the Charma and Shangli are highly cultivated. The Mallá and Tallá pattis were separated at the last settlement and together comprise the tract on the right bank of the Káli south of Chaudáns and north of the Dhvaj peak. The junction of the Gori with the Káli takes place immediately below the fine ridge on which Askot itself is built The portion along the river is very low and marked by a highly tropical vegetation. The slopes stretching down from the high southern hills and the Askot ridge itself are open and healthy and the position of the tract is favourable for the sale of its products to the Bhotiyas, large parties of whom winter within its borders. In a military point of view the ridge of Askot may be considered the key to the Dárma and Byáns passes, for the only practicable way to them is along the bed of the Káli.

Mallá Askot comprises one waste and 18 inhabited villages and Tallá Askot three waste and 124 inhabited villages; the statistics of both may be shown thus:—

	Area in *bisis*.				Assessment in rupees.				Population.	
		Cultivated.								
	Total.	Irrigated.	Dry.	Culturable.	1815.	1820.	1843.	Current.	Male.	Female.
Askot Mallá ...	1,216	173	739	302	165	303	514	514	1,069	931
Askot Tallá ...	2,972	516	1,404	1,052	544	693	660	736	2,070	1,809
Total ...	4,188	689	2,143	1,354	709	996	1,174	1,250	3,139	2,740

The assessment falls at four annas nine pie per acre on the total area and at seven annas one pie per acre on the cultivated area. The patwári usually resides at Bárakot and there is a school at Dewal.

Taluka Askot.

The tenure of land in Askot is unique in Kumaon, it being the only parganah where the form of right in land known as zamíndári exists in these hills. This has been held for many generations by a family connected with the old Katyúri Rajas and who bear the affix Pála to their names and have the title Rájbár. Some account of them has already been given in the history of Kumaon,[1] and here we have only to deal with the fiscal history of the estate. The Rájbár had enjoyed the revenues of Askot for many generations until at length they fell under the rule of the Chands, who, however, left the Rájbár in possession, merely exacting an annual *nazarána* or fine in token of supremacy. The total of this due at the period of the Gorkháli conquest amounted to Rs. 400 per annum and was gradually increased by them to Rs. 2,000, at which sum it stood at the British occupation.[2] This sum, though it probably equalled the full amount which could have been demanded from the whole parganah on a regular assessment, was never settled as such, but continued to be fixed in one item under the name *tanka*, a term equivalent to *nazarána*, and at our earliest settlement a fixed sum was accepted at a reduced rate. With a view to the permanence of the *ráj*, it had been an invariably family custom that only the eldest son should succeed to the inheritance, whilst the junior members of the family merged in the body of landholders. During the Gorkháli occupation this rule was infringed upon and dissensions arising on the death of the Rájbár led to the successive appointments of Rudrapál and Mahendrapál, the brother and son of the deceased Rájbár, according as each outbid the other for the favour of the local Gorkháli commander. At the first settlement made by the British Government both these persons were admitted in the engagement and lease for the parganah. This lease differed from the former engagements in that it specified the villages by name and distributed the lump assessment amongst them. This apportionment of the State demand was, however, drawn out wholly on the judgment of the Rájbárs themselves, without any reference to the opinions of the village landholders. The same system was pursued at the second settlement, and at the third the only difference was that the name of Rudrapál was

[1] Gaz., XI., 365, 455, 494, 531, &c. [2] Traill, June 30th, 1821.

omitted from the engagement paper with his own consent, in pursuance of some private arrangement between him and Mahendrapál. This circumstance led to subsequent divisions between these persons and terminated in a suit in court instituted by Rudrapál; the result of this was a decree in favour of the plaintiff for the Rájbári of one-third of the parganah as it stood at the formation of the first triennial settlement. Accordingly this division was carried into effect by arbitration and three leases were granted; the first to Mahendrapál, for his share or two-thirds, the second to Rudrapál for one-third, and the last to Mahendrapál for the newly-cultivated villages reclaimed through his means within the preceding three years and which were not included by the court in the adjudged division. Claims were at the same time preferred by other members of the family to specific shares in the Rájbári, but as none of these claimants appeared to have ever been admitted during the former or last Government to the engagement for any of the rights or privileges of the Rájbári, their demands on the ground of local usage were dismissed.

The smaller share came down by regular succession to three brothers—Pirthi, Sarabjít, and Mohkam. In 1832, Mr. Traill allowed a separate engagement for the land-revenue of Helpiya and its twenty-four hamlets to Mohkam Singh, while Dewal and its eighty-three hamlets remained in the lease of the Rájbári. Receiving a sanction never before accorded by custom or local law, these new landlords as distinguished from landholders tried their new rights by getting deeply into debt, with the result that they fell into the hands of the Almora usurers and were brought into the civil courts. They resisted in their own stupid way. Mohkam Singh fled for refuge to his relatives in Doti, but Pirthi Singh was seized and remained for some time in the civil jail at Almora. The upshot of this litigation was that their estate was sold in satisfaction of decrees of the civil court in 1843, and the principal creditor, one Krishna Sayál, became the purchaser. The elder brother of the purchaser, Híra Lal Sayál, had, previously in the course of the litigation, mysteriously disappeared and foul play on the part of the debtors and their friends was suspected. The new settlement was then made with Krishna Sayál at the former revenue, Rs. 273, but it fared as badly with him as with his brother,

for on proceeding to take possession he was murdered by the sons of Pirthi Singh and Mohkam Singh, who again fled for protection to their relatives in Doti. The heir of Krishna Sayál was a minor, and with the consent of the Commissioner the estate was for some time managed by the Rájbár, who accounted for the proceeds. During this time opportunity was taken to examine into the resources of each village and the condition of the cultivators, and it was found that a great portion of the actual tillers of the soil were immigrants from Doti. The estimated value of the outturn was Rs. 364 with *sír* land and customary dues called *ság-pát* or *dola-dhek* and extraordinary dues known as *tíka-bhet*, such as personal service in carrying loads and litters. The right to the Rájbári has always been held to depend upon the will of the paramount power and immemorial usage has sanctioned the rule that so long as the Rájbár provides in a suitable manner for the dependants of his own house, he is entitled to all the profits of the estate and is unfettered in the mode and amount of distribution. In 1847 the property was again sold in satisfaction of a decree of court, and this time the purchaser was Túlarám Sáh, the treasurer of the Almora collectorate. He found means to obtain possession in the following year, but Rájbár Pushkar Pál repurchased his rights in 1855 and is now the zamíndár of all Askot, which he holds on the same terms, *i.e.*, he may increase the cultivation to his own profit and make such arrangements as he may think advantageous for the *taluka*, but he cannot interfere with the permanent tenants' possessions recorded in the village papers.

Aswálsyun, a patti of parganah Bárahsyun, lies in the south-east corner of that parganah between the right bank of the western Nyár and the united Nyárs. The soil is rich and the population is industrious but very litigious. The principal villages, most of which are good, are Nagar, where there is a school, Bhatgaon, Saraon, Súralgaon, Chámi Saknoli, Mirchwara, Súla and Kúgsa. The name is derived from the Aswál caste, who inhabit the patti. Nagar lies in longitude 78°-39′ and latitude 29°-59′. In 1864, seven villages were transferred to Manyársyun. The patwári usually resides at Dángi in Manyársyún and collects the land-revenue of both pattis, which in 1864 from all sources amounted to Rs. 2,431.

Athágúli, a patti of parganah Bárahmandal in Kumaon, is divided into two, the Walla and Palla pattis. The former occupies the left bank of the Gagás river in that portion of its course where it is crossed by the Ránikhet and Dwára road and extends from Ránikhet to the river. The latter occupies the corresponding portion of the right bank. The principal places in the Walla patti are:—Ránikhet, Badhan, Bugúna, Chaukúni, Dugaurha, Jhalorhi and Walna, and in the Palla patti are Airári, Bánsula-sera, Bhet, Bhandargaon, Chyáli, Dhunkhalgaon and Ubhyári and Aror, in both of which last there are schools. The patwári usually resides at Bagwáli-Pokhar. The statistics of the two pattis may be shown thus:—

Athágúli.	Area in *bísis* assessable.				Assessment in rupees.				Population.	
	Total.	Cultivated. Irrigated.	Cultivated. Dry.	Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
Palla ...	2,930	152	2,427	351	911	1,638	1,814	3,423	2,175	1,880
Walla ...	2,575	39	2,040	495	598	921	966	2,108	1,825	1,618

The assessment per acre on the total assessable area in the first amounted to Re. 1-2-8 and in the second to Re. 0-13-1; and on cultivation in the first to Re. 1-5-3 and in the second to Re. 1-0-3. About 116 *bísis* are held as *gúnth* and *muáfi* worth nearly a rupee per *bísi*.

Athbisi Malla, a patti of parganah Síra in Kumaon, is bounded on the north by Díndíhát; on the south by patti Bárabisi; on the west by Talla Athbisi and on the east by Talla Askot. The upper valley of the Charm-gár, a tributary of the Káli, drains the patti. The principal villages are Durlekh, Hanchila and Ujerha. The statistics of the Malla and Talla pattis may be shown thus:—

Athvisi.	Area in bísis assessable.				Assessment in rupees.				Population.	
	Total.	Cultivated. Irrigated.	Cultivated. Dry.	Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
Malla ...	327	170	85	71	282	367	420	546	428	349
Talla ...	509	131	192	185	226	303	342	555	421	342

Some 43 *bisis* are held free of land-tax. The revenue falls at Re. 1-10-8 per acre on the total assessable area in the Malla patti and at Re. 1-1-5 per acre in the Talla patti: the rate on cultivation is Rs. 2-2-9 and Re. 1-11-5 per acre respectively. The patwári usually resides at Nankuri.

Athbisi Talla, a patti of the Síra parganah in Kumaon, is bounded on the west by Máli; on the east by Athbisi Malla; on the south by Bárabisi and on the north by pattis Máli and Díndíhát of the same parganah. The southern portion of the patti is drained by a tributary of the Rámganga, crossed near its confluence with the Rámganga by the Thal road at the village of Mohání. The other principal villages are Búnga-Bora, Lima-Bhat and Sera-Saunáli At the extreme south-eastern boundary of this patti the Lori peak rises to a height of 7,763 feet. One village was transferred to Díndíhát and three to Máli at the recent settlement. The separate *sír* or private holding of the Ráni regnant of the former Malla dynasty here was known as Athbisi, whilst Bárabisi formed the military assignment.

Athgaon, a patti of parganah Gangoli in Kumaon, is bounded on the north by the Bhadrapati-gár, which separates it from Kamsyár; on the west and south-west by the Sarju river; on the south and south-east by patti Bel and on the east by patti Baráun of the same parganah. The principal villages are Chak-Bora, Chaunda, Nadoli, Pokhri and Bankaul on the Bhadrapati. The road from Almora to Askot passes through the northern part of the patti and that to Pithoragarh just below its southern boundary.

In the north-west the peaks of Vásuki-Nág and Gauri-devi attain a height of 6,889 and 5,889 feet respectively, yet are clothed with cultivation to the summit. To the east there is less cultivable ground and here the peaks average about 5,400 feet. The assessable area comprises 3,492 *bisis*, of which 1,708 are culturable and 1,783 are cultivated (480 irrigated). The land-tax at the conquest amounted to Rs. 237; in 1820 to Rs. 319; in 1843 to Rs. 516, and is now Rs. 2,101, which falls on the whole assessable area at Re. 0-9-8 per acre and on the cultivation at Re. 1-2-10 per acre. The revenue-free area amounts to 242 *bisis* and 1,285 *bisis* are held in fee-simple. The population at the time of settlement numbered 3,256 souls, of whom 1,740 were males. Twenty-one villages were

received from Baráon and 37 from Bel, whilst five were transferred to Kamsyár at the recent settlement. The patwári usually resides at Chamtola and there is a school at Ganái.

Ayárpátha, a mountain rising to the south of the Naini Tál lake, in latitude 29°-23′-2″ and longitude 79°-29′-20,″ of which the northern peak has an elevation of 7,639 feet above the level of the sea. This mountain derives its name from the presence of the '*ayár*' or *Andromeda ovalifolia*, a tree giving a small white flower in the rains resembling a 'lily of the valley.' The young leaves are poisonous for sheep and goats, who seem however to be very fond of it. Ayárpátha is also mentioned in the notice of Naini Tál.

B.

Bachhansyun, a patti of parganah Dewalgarh in British Garhwál, is bounded on the north by the Ganges, which separates it from Tihri on the south by patti Kandársyún; on the east by the same patti, and on the west by patti Chalansyún. This patti was formed from Dewalgarh in 1864. The patwári usually resident in Nawásu, collects the revenue of Patti Chalansyún also; both aggregating Rs. 2,147 from revenue and *sadábart* and Rs. 42 from revenue-free grants, with a total population in 1864 of 4,195 souls. This patti comprises the valley of the Bachhan-gadh, in which are situat the villages of Bámsu, Nawásu, Barsuri, Dhankot and Dúngar where there is an iron mine. Unworked copper mines exist Pípali, Dúngara and Tilni Tauna.

Badalpur, a patti of parganah Talla Salán, was divided in two pattis at the settlement in 1864 known respectively as t Malla or upper and the Talla or lower. They lie together to t south of the Eastern Nyár river and are bounded on the west b pattis Kauriya and Síla; on the east by pattis Kolagár, Iriyak and Painún, and on the south by the Patli Dún. The road fro Páori to Kotdwára runs through a small portion of the north-wes corner of the Malla Patti. The chief villages are Sinala with iron mines, Kharkholi, Kota, Toli, where there is a school, and Byáli. In the Talla Patti are Mathiyáli, Asankhet, Rámákesera and Maraura. The drainage of the northern portion flows into the Nyár; and of the Talla Patti into the Rámganga. The Mandhál stream rises in the latter tract near Painwálgaon. In

1864 the villages to the north of the Nyár were transferred to the neighbouring pattis, Gawána Talla to Kolagár, Halúni to Gurársyún, and twelve villages to Maudársyún, while Kandni was added to the Malla patti from Khátali and Negiyána from Bijlot to the Talla patti. The census statistics are as follows for both Pattis: in 1841, 3,457 souls; 1853, 6,927; and 1858, 7,099. The patwári of Badalpur Malla usually resides in Toli and collects the land-revenue of Kauriya Walla also, which in 1864 aggregated Rs. 2,507; the patwári of Síla Malla collects the revenue of Badalpur Talla. Badún lies in longitude 78°-49′-40″ and latitude 29°-51′.

Badhán, a parganah of the Garhwál district, contains six pattis or sub-divisions, each of which is separately noticed, *viz.*:—Khansar, Kapíri, Karakot, Nandák, Pindarwár and Pindarpár. Badhán is bounded on the north by Painkhanda and Dasoli; on the east and south by Kumaon, and on the west by Chandpur and Nágpur. The assessment of the land-revenue has been as follows:—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,571	4,250	4,357	5,781	6,422	6,821	6,948	6,788	7,366

The records of the current settlement show that there were then (1864) 225 estates comprising 374 villages and containing a total assessable area amounting to 8,875 acres, of which 7,361 were tivated. The mill-rent yielded Rs. 665 and the land-tax Rs. 7,366, which Rs. 303 were alienated in *gúnth* and *muáfi*, the whole fall- g at Re. 0-13-3 per acre on the total assessable area and at . 1-1-0 per acre on the cultivation. The population in 1841 mbered 9,824 souls, of whom 4,310 were females; in 1853, 15,541 631 females); in 1858, 16,880 (8,131 females); in 1872, 21,454 0,606 females) and in 1881, 25,692 (12,839 females). Mr. Batten s the following remarks on this parganah:—

Parganah Badhán or Badhángarh is divided into two portions by the Pindar river. Patti Pindarpár reaches to the very base of the snowy range and has some five villages within a short horizontal distance of some of the highest peaks near the sources of the Kailganga and Nandákini rivers. The best villages are not found in the valley of the Pindar; and considering the facilities for irrigation affforded by nature, it is remarkable how very little *talaon* or lowland occurs

under the head of irrigated. The finest villages are those either situated, like Kob, on high upland near the forests, but possessing a large share of flat or easily sloping land or placed, like Wan, very near the regions of eternal snow, but surrounded by good pastures enjoying a bracing climate, and inhabited by an enterprising and Bhotiya-like race of trafficking people. There are not many *thokdárs* in Badhán, but those that exist are chiefly descendants of persons to whom military assignments of land were given under the former Governments. Occupant *zamíndárs*[1] are generally the descendants of those whom the *thokdárs* induced to settle on their grants of land : on this account the latter are sometimes found recorded by the villagers themselves as proprietors of the soil, even where not the slightest possession, or *sír* cultivation on the part of the *thokdárs*, exists ; but in most instances the occupants claim the nominal proprietorship, although they are willing to pay the customary dues called by them sometimes *malikána*, sometimes *nazarána*, sometimes *hak zamíndári* and sometimes, indeed generally, *hak thokdári* to the *sayána* or *thokdár*. As, however, these dues are very small, and as no rent in addition to their quotas of revenue is taken from the occupants, it is really a matter of little consequence whether from ignorance, or fear, or from a hope of throwing the responsibility of revenue payment on the more powerful members of the community in case of any future hardship, the people have recorded the *thokdárs* and their brethren as shareholders ; or whether under a suspicion of probable usurpation or exaction, or a knowledge of their own rights, the people have insisted on their own proprietary tenure.

The Badhán Rajpút or Khasiya, is, in general, a plain, simple-minded character : and though in this parganah there have been two or three instances of excessive litigation among the brethren of the *thokdári* families, and on the subject of some of the large padhánships, still the people on the whole are more acquainted with the barter price of salt at Níti and of the money price of wheat and rice at Almora, than with the theoretical tenures of their land—on which subject they, as well as the Bhotiyas not, unfrequently referred the settlement officer to their wives for information. Sheep and goats are extensively kept for the Bhotiya

[1]Here and elsewhere, unless expressly mentioned in connection with the tenure called *zamíndári*, the word *zamíndár*, in accordance with hill usage, is used to represent the actual occupant of the land or landholder.

traders of Níti and Mána. The rocks in this parganah are similar to those in Painkhanda, except that there is a greater proportion of lime-stone, which formation characterises some of the high-peaked mountains south of the Pindar river. Iron ore is not unfrequent and is here and there worked for local wants.

Badrináth, a peak in parganah Malla Painkhanda of British Garhwál, also a village, temple and collection of rest-houses on the route from Srínagar to the Mána pass, 25 miles south of the latter and 55 north-east of the former. The village is situate on the right bank of the Vishnuganga, a feeder of the Alaknanda, in the middle of a valley about four miles long and one broad and is equidistant from two lofty mountains, the Nar and Nárayana Parbat, one rising to the east and the other to the west. The bank on which it stands is sloping, that opposite is bolder, its brow being on a level with the top of the temple of Badrináth or Badrinárayan, an incarnation of Vishnu, situate in the highest part of the village and rising between forty and fifty feet from the ground. The temple lies in north latitude 30°-44′-29″ and east longitude 79°-32′1″, at an elevation of 10,284 feet above the level of the sea. The name is said to be derived from the sacred '*badarí*' or jujube, which however, does not grow here. Madden suggests the spiny *Hippophae salicifolia* or derivation from '*bhadra,*' 'fortunate,' 'auspicious': but there is little doubt that the derivation from the jujube is correct. The building is said to have been erected some 800 years ago by Sankara Achárya [illegible] of conical form with a small cupola covered with plates of copper and surmounted by a gilded ball and spire. The original establishment is reported to be of very great antiquity; the present temple has however a modern appearance, several former ones having been overwhelmed by avalanches and an earthquake having shaken the present erection so seriously as to render necessary almost entire restoration. The body of it is constructed of flat stones, over which is a coat of fine plaster which, while adding to its neatness, detracts from the appearance of antiquity. A short distance below the temple is the Tapta kund, a tank about thirty feet square and covered with a roof of planks supported on wooden posts. It is supplied from a thermal spring by means of a subterraneous communication terminated by a spout in the form of a dragon's head. A thick smoke

Hot springs.

or steam of a strong sulphurous smell is sent forth by the water, which is so hot as to be scarcely endurable to the touch until the temperature is reduced by the admixture of cold water from another spring. In this manner a bath is formed in which the sexes bathe indiscriminately. The ablution accompanied by due adoration of the idol and liberal fees to the attendant Brahmans is considered so efficacious in cleansing from past offences that in ordinary years some five to ten thousand pilgrims visit the shrine and every twelfth year at the *kumbh-melá* the number is increased four-fold. The pilgrims assemble at Hardwár and as soon as the fair there is closed towards the middle of April, proceed on their round of pilgrimage in the mountains by Deoprayág, Rudrprayág, Kedárnáth, Badrináth and home by Nandprayág and Karnprayág. The entire tract here is known as Vaishnava-kshetra, which is subdivided into twelve subordinate *kshetras* or tracts. Besides Taptakund, in which Agni resides by permission of Vishnu, there is a recess in the bed of the river forming a pool called Nárada-kund. This is sheltered by a bare rock whose projecting angle breaks the force of the current and renders the place fit for bathing. A little to the left is the Suryya-kund, another thermal spring proceeding from a fissure in the bank. There is no reservoir here and the pilgrims catch the water in their hands and throw it over their bodies. Besides this there are the Brahm-kapáli and other reservoirs which are reported to possess various virtues and form part of the twelve *kshetras* visited by pilgrims. The principal temple called Ráj-badri and with four others connected with it is known as the Panch-badri, *viz.*:—Yog-badri, Pándukeswar, Bhabadri at Animath and Kapál-badri or Bhavishya-badri at Subhai, where there are thermal springs. The idol in the principal temple is formed of black stone or marble about three feet high. It is usually clothed with rich gold brocade and above its head is a small mirror which reflects the objects from the outside. In front are several lamps always burning and a table also covered with brocade. To the right are the images of Nar and Náráyana and on the left those of Kuvera and Nárada. The idol is adorned with one jewel, a diamond of moderate size, in the middle of its forehead, whilst the whole of the properties, including dresses, eating vessels and other

The idol.

paraphernalia, are not worth more than five thousand rupees. The idol Nar-sinha at Joshimath is said to have one arm which daily grows thinner, and when it falls off the road to Badrináth will be closed by a landslip and a new temple erected at Bhavishya-badri near Tapuban, also known as Dákhtupan, or, as some say, at Adbadri in Chandpur. A good deal of ostentatious attention is paid to the personal comforts of the idol at Badari. It is daily provided with meals which are placed before it, and the doors of the sanctuary are then closed and the idol is left to consume its meals in quietness. The doors are not opened again until after sunset, and at a late hour, its bed being prepared by the attendants, the doors are again closed until morning. The vessels in which the idol is served are of gold and silver and a large establishment of servants is kept up both male and female, the latter as dancing-girls and mistresses of the celibate priests. The only persons who have access to the inner apartments are the servants and no one but the Ráwal himself is allowed to touch the idol.

Endowments.

The temple is closed in November and the treasure and valuable utensils are shut up in a vault beneath the shrine and every person descends to Pándukeswar and Joshimath. As a rule from November until the end of May the temple is covered by snow. Once some plundering Garhwális made their way across the snows in winter and removed some 90lb. weight of gold and silver vessels, but they were seized and punished by the Garhwál Government. The Rájas frequently made use of the temple property, giving villages in mortgage in exchange which were never redeemed. At the Gorkháli invasion, the Rája borrowed Rs. 50,000 as a loan, and from this and other sources the temple possesses an endowment of 226 villages in Kumaon and Garhwál which as early as 1824 yielded a revenue of over Rs. 2,000 a year. At the same time many of these villages are large and populous and could yield a far greater rent; but the rents were fixed at the time of the grant either in money or in kind in perpetuity, and as many of the cultivators were Brahmans, the outturn is small compared with the area. In 1864, the Garhwál endowments alone comprised 4,372 *bísis* of assessable land yielding a land-tax of Rs. 3,943 distributed over 262 villages, and in Kumaon some 1,674 *bisis* in plots of 10 *bísis* or more distributed over 69 villages.

As the annual expenditure sometimes exceeds the income of the year from offerings and endowments, recourse is had to loans to be repaid from the surplus of favourable years. The offerings consist of *bhet* or offering to the idol, *bhog* or for the expenses of his food and clothing and *nazarána* or gift to the Ráwal. Of late years the affairs of the temple have been so badly managed that it is always in debt, though if properly controlled the revenues are sufficient for all proper expenditure. The ceremonies to be performed by pilgrims are simple in the extreme, consisting of a short service with a litany and bathing and in the case of orphans and widows in shaving the head. The principal priests are Namburi Brahmans from Malabar and the head-priest is called Ráwal. In order to provide for the succession, in case of the illness or death of the Ráwal, a *chela* of his caste is always in attendance at Joshimath, so that there is always a Ráwal elect present to take possession of the office. The Ráwal has a regular establishment to manage the temporal concerns of the institution and under the former Rájas exercised supreme and uncontrolled authority in the villages attached to the temple. Formerly the priests were supposed to live in perfect celibacy, but now they excuse themselves that they have broken with all home ties. A teacher is employed who conducts the school for the children of temple employees, and in 18[illegible] a dispensary was established the cost of which is borne from [illegible] *sadábart* funds, and it remains open as long as pilgrims attend. In ordinary years the pilgrims are chiefly Jogís and Bairágis and the offerings amount to about Rs. 5,000, but at the *kumbh* and *adh-kumbh*, or every twelfth and sixth year, the numbers of pilgrims and receipts are greatly increased. West of the temple about twelve miles is the group of snowy peaks called Chaukhamba or Badrináth, six in number, three of which have an elevation above the sea respectively of 22,395, 22,619 and 22,901 feet. Six miles to the south-west is a summit called Nalikánta having an elevation of 21,713 feet. See MANA BHOTIYA MAHALS. On the way to the Satopant lake and glacier there is a water-fall called Basodhára, to which is attached the legend that when seen by an impure person it ceases to flow. The Bhotiyas say that when Kumaon was invaded by the British, the Rája proceeded to invoke the aid of Badrináth, but when he

Priests.

came to Basodhára, the water-fall ceased to flow and they then knew that the Rája would cease to reign. The lake near the Satopant glacier has three corners each with a different name and is to the Bhotiyas a Ganges into which the ashes of their people collected at the funeral-pyre are thrown. It, too, has its legend that it is fathomless and that no bird can fly across it. The Bhotiyas present offerings to the spirit of the lake to keep the passes open and aid them in their dangerous journeys, and as they themselves are denied entrance into the Badrináth temple, it has for them all the virtues of Badrináth itself.

Bágeswar, a village in Patti Talla Katyúr, and parganah Dánpur of Kumaon, is situate at the junction of the Sarju and Gomati rivers some 27 miles north of Almora. The name[1] is derived from the temple which is dedicated to '*Vák-iswar*', 'the lord of speech', or according to others '*Vyághreswar*', 'the tiger-lord'. The population numbers about 500 occupying a few streets of substantially built houses on the right bank of the Sarju. Bágeswar is the great mart for the exchange of Tibetan produce between the Bhotiyas and the Almora merchants and entirely owes its prosperity to British influence. It is only occupied for trade from the middle of November until the end of April. Three fairs of a semi-religious character take place: the principal, known as the *Uttaráyini* or *Utraini*, is held about the twelfth of January, when goods to the extent of three lakhs of rupees change hands. The present temple was erected by Rája Lachhmi Chand[2] about 1450 A.D.; but inscriptions noticed elsewhere show a far earlier foundation[3]. Certain tombs constructed of large tiles[4] discovered in the neighbourhood and at Dwára Hát have been assigned to Mughal colonies and attest, perhaps, the presence of a non-Hindu race.

Traill writes:—"These tombs differ both in form and appearance from the graves of Jogís, the only class of Hindus which adopts sepulture. It is therefore to Tátars or Muhammadans only that these graves can be ascribed. The extreme sanctity of Bágeswar, a principal '*prayága*' or confluence and place of pilgrimage, precludes the supposition that either of these sects would have been

[1] Gaz., XI., 317. [2] *Ibid.*, 556. [3] *Ibid.*, 409. [4] *Ibid.*, 512; see BHOTIYA MAHALS.

suffered as subjects of a Hindu Government, to pollute that place with their dead, while the Muhammadans, as is well known, were never able to effect any conquests within these hills. By the natives these tombs are called Mughali. The Dárma Bhotiyas, who are also said to be descendants of a colony left by Timúr from the association of the Muhammadan creed with the name of Mughal, repel as an insult the extraction attributed to them. The Sarju is crossed by a new iron wire suspension bridge of 147 feet span and the Gomati by a similar one of 60 feet span ; both the old bridges were washed away in 1871, but have since been replaced. Elevation above the sea 3,143 feet : latitude 29°-50′-15″ ; longitude 79°-48′-52″.

Roads.

Bágeswar is approached from Almora by two roads, one passing through Tákula and the other by Binsar. Roads connect it also with Someswar on the Kausáni road, Baijnáth on the road to Karnprayág, Kháti on the road to the Pindar glacier and Milam and Thal on the road to Askot. The road from Tákula starts from the village of that name 12 miles from Almora and 14 miles from Bágeswar, from an ea camping ground near the clump of *deodárs* surrounding its old temples, and ascends to a pass leading across the Jammarkhet ridge the peak of which rises on the right to a height of 6,837 feet, thence

From Almora.

descending the road winds along a narrow thickly wooded valley to the ascent to the outlying spur from Gananáth (6,947 feet), near which there is a temple and a road made of steps of flag stone from the neighbouring quarries which leads almost in a straight line up the hill. This was constructed by the piety of an Almora trader, but is little used as the new road is much more easy and even shorter. Thence an ascent is again made to the west of the Jarauli peak (6,200 fe high) and thence into the valley of the Sarju, where the road fro Tákula is joined by the Binsar road and passing by Khafiliikhet, Bágeswar is reached. This march is fairly diversified by hill and valley, heat and shade, and affords some pretty bits of scenery. The road from Binsar keeps to the eastern side of Jammarkhet, passing by Panchdeo, Ukháli and other villages lying near the Gat-gadh stream and eventually joining the Tákula road, where it enters the Sarju valley.

From Someswar.

The road from Someswar passes up the valley of a small feeder of the Kosi by the villages of Mahargaon, Baisargaon, Nákot and the Karkeswar temple to the Pápi ridge forming the watershed between the Sarju and the Kosi, whence the road is undulating to Bágeswar. Someswar is about twelve miles from Bágeswar and the Pápi ridge lies about half way. The road from Baijnáth to Bágeswar lies along the left bank of the Gomati river from Baijnáth to the confluence with the Sarju, a distance of twelve miles and is very low and hot the entire way. There are however a few pretty reaches in the river known locally as *táls* or lakes which abound with fish of all the common kinds. The road to Askot by Thal runs nearly due east by Halkána and Dhupaulá Sera to Sunudiyár, where there is a tea-planter's bungalow. Another sheep track leading east follows up the valley of the Pungor-gádh, in addition to which most of these roads are connected with each other by tracks across country passable for men but not for ponies. The main roads are excellent and are open at all times of the year for men and animals. During the winter months all these roads are crowded with flocks of goats and sheep conveying borax and salt from Bhot and grain and rice in return, while numerous parties of lowlanders are seen carrying *kiltas* of oil which they exchange in Bhot for wool. The trade returns are noticed under 'trade' in the article KUMAON.

To Thal.

To Kapkot.

From Bágeswar upwards the bed of the Sarju narrows and forms more a gigantic ravine than a valley, the entire floor being frequently occupied by its bed. This channel is exceedingly deep and in many places forms dark pools abounding in fish. In places the mountains rise precipitously on either side, so that the road to avoid the cliffs has sometimes to make a considerable rise where it cannot be carried along the face of the cliff. On the right bank large torrent-feeders of the Sarju are crossed: one (the Lahor) about three miles, a second called the Kanálgadh at about seven miles and on the left bank the considerable stream of the Pungor-gádh. Within two or three miles of Kapkot the valley opens considerably and gives place to several stony and uncultivated dells covered with dwarf

Zizyphus (*badarí*). The glen around Kapkot itself is highly cultivated, yielding fair crops of rice and *manduwa* (*Eleusine coracana*). It is about one and a half to two miles long and about half as wide, with an elevation of from 4,000 to 4,500 feet above the level of the sea, enclosed by a belt of gently swelling and diversified mountains covered with a beautiful vegetation, the *chír* pine (*Pinus longifolia*) feathering the summits. The village is on its western edge close under the slopes of Dioli (5,471 feet) about 150 feet above the river and half a mile from it. Several smaller hamlets are scattered over the valley, each with its grove of trees, among which the plantain attains a fair size and produces large and excellent fruit. On the right bank the Chírpatkot peak (6,637 feet) appears and up the glen the snowy range, conspicuous amongst which is the peak of Nandakot (22,538 feet) with its summit white as a new pál or servant's tent, to which it bears a strong resemblance. The picturesqueness of the scenery is no doubt in a measure due to the limestone which from Bágeswar to Kapkot forms the most important rock.

Here a gradual change in the character of the vegetation may be seen. The *Origanum* and *Cratægus pyracantha* (*gingáru*), or white thorn, replacing the dwarf date palm found near Bágeswar. The *tejpát* (*Cinnamomum Tamala*), called *kirkiriya*, abounds in the shady glens. The *Didymocarpus macrophyllus*, *Loxotis obliqua*, *&c.*, cover the dripping rocks, a flesh-coloured *Argyreia*, and the *Cucumis Hardwickii*, (*airálu*) climb over the bushes with *Tricosanthes palmata* (*indráyan*) and its brilliant red but fetid fruit. *Coix lacryma* (*lúchúsha*) or Job's tears grows by every stream and in several places *Æginetia indica*. *Osbeckia angustifolia* is abundant in the grass and *Clerodendron serratum*, and *siphonanthum* and *Bælmeria tenacissima* (*poi*) amongst the thickets. *Abelmoschus pungens* (*hou*, *kapasya*) grows in abundance on the damp shaded slopes. The more common trees are the *Photinia dubia Quercus annulata*, *Kydia calycina* (*puta*), *Ehretia serrata* (*púniya*), *Ougeinia dalbergioides* (*sanan*), *Terminalia bellerica* (*baihara*), *Woodfordia floribunda* (*dhái*), *Flemingia semialata*, *Wendlandia cinerea*, *Callicarpa macrophylla* (*gaiwali*), *Saurauja nepalensis* (*goganda*), *Engelhardtia Colebrookiana* (*maná*), *Bauhinia variegata* (*kwairál*) and *Bauhinia retusa*, Roxb. (*kándlá*), and a species of *Sapium* named *phútkiya* (Madden).

There is a fine grove of *silang* trees (*Olea fragrans*) here which flower in September.

Bagoli, a halting-place and village on the road from Karnprayág to Bágeswar in Kumaon in Patti Síli Chandpur of parganah Chandpur in Garhwál, lies in latitude 30°-11′-50″ and longitude 79°-21′-1″: distant 8 miles 6 furlongs 11 poles from Karnprayág and 10 miles 4 furlongs 35 poles from Panthi, the next station before Jolabagr. The road to Bagoli from Karnprayág winds along the left bank of the Pindar river with precipitous hills on either side. At Simli (4m. 2f. 23p.), where it meets the road from Almora, by Lobha it crosses the Bharárigár, which here joins the Pindar. Thence by Chalakot Rathora and Kulsaun to Bagoli (4m. 3f. 18p.) From Bagoli to Panthi the road continues along the same side of the river, crossing to the right bank near Nalgaon and recrossing at the Náráyanbugr bridge, somewhat undulating. Thence to Panthi Bhagwán the road is fairly level. The Pindar valley scenery all through from its source to its confluence with the Alaknanda at Karnprayág is most picturesque and almost in every mile has some beautiful bits where wood, water, forest, hill and rocks vie with each other in contributing to the general *abandon* of nature here visible.

Baijirau, a halting-place on the route between Kainúr and Rámnagar, is situated in Patti Sábali of parganah Mallá Salán in Garhwál in latitude 29°-55′0″ and longitude 79°-4-41″: distant 10 miles 7 furlongs 21 poles from Kainúr and 9 miles 7 furlongs 28 poles from Bhatwára, the next stage. The road hence to Bhatwára crosses the Eastern Nyár by a bridge of 62 feet span to Lachhi, crossing a tributary of the Nyár by a bridge of 57 feet span and thence to Kundi, 2 miles 0 furlongs 20 poles. Hence to Kakrora, Rikhár and the Bináyak-khál at Domaila, 4 miles 3 furlongs 8 poles. From Domaila the road crosses the Khátali-gadh by a bridge of 72 feet span, descending for a mile and a half and again ascending to Bhatwára encamping-ground in large open fields 3 miles 4 furlongs.

Baijnáth, a village in patti Malla Katyúr and parganah Dánpur of the Kumaon district, lies in north latitude 29°-51′-24″ and east longitude 79°-39′-28″, at an elevation of 3,545 feet above the level of the sea (temple). The river Gumti (Gomati) flows close to the

village, which is 12¼ miles from Someswar, 12 miles from Bágeswar and about 12½ miles from Jolabagr on the Nandprayág road, with each of which it is connected by a good road. Baijnáth in 1881 had a population of 117 souls. There is a large Hindu temple here sacred to Káli situate in the old Ranchula fort, of which the altar is said to be constantly moist with the blood of kids and buffalo calves sacrificed to the dread goddess of destruction, still, however, called '*mái*' or mother. There are several old temples of the Turk's cap style, most of which are in ruins and are used as corn lofts and store-rooms as in Dwárahát. A colony of Gosáins are established here, who observe the custom of burying their dead in small temple-like tombs around the building in which they worship. Along its walls are old sculptures collected from different places, most of which are of modern Hindu origin; but one is clearly a representation of Buddha and must have belonged to a temple of that creed which flourished here in the eighth century of our era according to Hwen Thsang. Baijnáth is interesting as being in the centre of the Katyúr valley, the home of the ancient Katyúris. On all sides the valley is studded with tea-plantations where twenty years ago were only the haunts of tigers and bears.

Bairaguna (or Bhairongana), a halting-place on the route between Hardwár and Srínagar by the Lachhman-jhúla bridge, distant eight miles 11 poles from the former stage and 12 miles 32 poles from Chandpur-ke-manda, is situate in the Hinwal or Hiunal valley in Patti Udepur Talla of parganah Ganga-Salán in Garhwál in latitude 30°-3′-40″ and longitude 78°-25′-30.″ The road from Hardwár passes by Ránípokhri and Lachhman-jhúla in the Dehra Dún district into Garhwál and thence along the left bank of the Ganges to its confluence with the Hinwal river at Phalári. Hence it follows the left bank of the latter river to Bairaguna, a little over eight miles, slightly undulating the entire way. Hence to Chandpur-ke-manda the road continues up the valley for a short distance to a ford across the Hinwal and ascends by Bijni to the Sainduli-khál, (6m. 3f. 7p.) Thence a descent of half a mile leads to Bandarbel dharmsála and a level march of one mile and ascent of half a mile to Dhángugarh (3m. 5f. 18p.) The road descends from here for about quarter of a mile and is level along the Ganges to Chandpur, 2 miles 7 poles from Dhángugarh.

Balchha, a pass into Hundes or Tibet, is situated in Malla Painkhanda of Garhwál in latitude 30°-47′-20″ and longitude 80°-12′-45.″ The Balchha pass is reached from the Untadhúra pass to the north of Milam in parganah Juhár of Kumaon and was crossed by Messrs. Winterbottom and Strachey in their expedition to Tibet and also by Captain Weller, an account of whose journey is given here. Weller crossed the Unta-dhúra and went on to the Balchha pass (29th May). He descended the northern slope of Unta-dhúra for half an hour over one unbroken bed of snow. Thence a moderate descent of one hour, over snow-beds cut into most troublesome ridges by the wind, to the Lanka stream, continued for an hour along its bank over snow-beds and bare hills, then turned to the west and after a bad descent in snow and slush reached Topi-dúnga. At the turn, the Lanka also bends westwards and is joined by the Doldunkhar stream from the east. Topi-dúnga is a small level spot on the left bank of the Lanka, which here has a depth of about [illegible] feet and a width of about 20 feet. A shepherd and his flock are said to have been snowed up here for a whole winter. There is a little herbage at Topi-dúnga and further west, grass and low brushwood (on the opposite side) are tolerably plentiful. The Dol rises in the Jandi glacier on the western face of the Kingri-bingri ridge, which here separates Garhwál from Tibet and flows westwards to its confluence with the Lanka. The united streams then receive on the left bank the Torgár coming down from the south-east by south. The junction is curious as the two flow nearly parallel for some hundred yards; the Torgár along the top and the Lanka along the base of a precipice which may be 450 feet high at the highest part and diminishes to nothing at the junction. Thus reinforced the Lanka becomes the Girthi stream of the maps (*q.v.*)

The encamping ground at Topi-dúnga has an elevation of 14,830 feet and one on the left bank of the Lanka near its confluence with the Doldunkhar an elevation of 14,640 feet above the level of the sea. From this descended to the river and passed along it to the west and crossed the Lanka, above its junction with the Dol, stream frozen, but not above knee-deep and some 20 feet wide, wind and slow. Continued up the Dol, chiefly flowing under snow between precipitous banks of rock. Then turned north across the Kálimat-

tiya ascent, very steep and covered with loose stones over a black crumbling slate. The latter part of the ascent less steep. This is the Kiungar pass by the Kiungar peak (17,680 feet). The crest is composed of small loose stones rising in a sweep to the top of the hills on either side; beyond a good extent of valley and low hills covered with brush-wood rises the Balchha ridge. Hence to Chidámu encamping-ground (13,520 feet) by a descent due north over alternate snow-beds and loose stones from the ridge on the east. The track is here bounded east and west by bare ranges with a small stream flowing north in the hollow between them chiefly under snow beds. The hills on either side are perpetually crumbling away, accumulating immense heaps of loose stone along their bases. Chidámu is a small level spot on the right or east bank of the stream above noted, which is here joined by another stream from the east. The streams unite near Laphkhel to from the Kiogadh, a tributary of the Girthi. Just north of Chidámu, across the stream, a succession of low hills commence, extending northwards to Laphkhel. These are covered with the goat-thorn or *damá* (*C. Pygma*) and the hollows afford good pasturage. Looking from the south the southern face of hills and ravines hardly bear a trace of snow whilst the northern aspect of those of similar elevation are thickly covered with snow.

From Chidámu the track passes along a succession of low hillocks to the Kiogadh, on the right bank of which is the Lapkhel or Laptel encamping ground (13,990 feet). Hence a track leads up the Kiogadh by the Chaldu pass (17,440 feet) and also by the Chirchun pass (17,960 feet) into Tibet, meeting the track from Unta-dhúra by the Kingri-bingri pass (18,300 feet) at the Chichun (Chitichun) encamping ground in Tibet (16,130 feet). Where crossed near Laphkhel the Kiogadh was a rapid torrent thirty to forty yards wide, but usually passable by laden sheep. The encamping ground is a few hundred feet above the river shut in by an amphitheatre of low hills which form the base of the low ridge crossed on passing into Tibet. The goat-thorn is tolerably abundant and in early June the hollows are covered with young grass forming a favourite pasturage ground. The *salagrám* stones abound here. Hence one track leads to the Shelshel pass on the west (16,390 feet) and another to the Balchha pass (17,500 feet). The

first stage is to Sangcha encamping ground (14,110 feet); first northwards up a gentle ascent or two and then west over undulating ground, sometimes bare and sometimes covered with *dáma* and rills of water giving nourishment to grass in all the hollows. The breadth of this tract is about two to three miles and it ends in the ascent to Balchha. From Sangcha the track leads north-east to the bank of a northern affluent of the Kiogadh. This is joined by numerous streams on either side and is divided near Talla Sangcha into two streams, one coming from the north and the other from the north-east, up which lies the route to the pass. The hills on either side are of inconsiderable height, bare, precipitous and crumbling, but towards the foot of the pass they open out a little and have a few thorn bushes on the slopes and where the surface is abraded it is of a brick-dust colour. On the summit is a small heap of stones with sticks and rags attached to them, to which the natives add a stone or two as they pass. The view northward from the summit of the pass is thus described:—"Instead of a plain which I had expected to see, the country of Tibet is formed of alternate low hills and table-lands with a range of higher hills well sprinkled with snow in the distance running north-west to south-east." Though at the time of his visit (the second of June) the weather was mild, this was represented to be unusual and the wind and cold were stated to be for the most part dreadful.

The Jhanka stream rises from the northern slope of the pass and has a direction north and a little west. This is joined by a stream coming from past Chirchun and the two united form the Trisum, a good-sized river flowing to the north-west. The view from the pass was contracted by the slope of the hill east and west just in front and by the distant haze, no vegetation was visible.

Balchha, a pass on the frontier separating Tihri from Bisáhr, lies over a crest of the ridge separating the valleys of the Tons and Pábar or Pábhara in Patti Bangarh and parganah Rawáin. The pass has an elevation of 8,898 feet above the level of the sea and the ridges on each side are thickly clothed with *deodár*.

Balchha Ghat, a ferry across the Káli river in parganah Shor in the Kumaon district, is situated 12 miles east of Champáwat and 19 miles south-east of Pithoragarh. Latitude 29°-17′-40″, longitude 80°-20′-55.″

Bamsu, a patti of parganah Nágpur in British Garhwál, is bounded on the north and east by Kálíphát Malli; on the south by Kálíphát Talli; and on the west by Tihri. The road from Rudrprayág to Kedárnáth proceeds northwards along the left bank of the Mandákini river. The patwári of Malli Kálíphát, usually resident in Guptkáshi, collects the land-revenue of this Patti, Maikhanda and Parkandi also. The principal villages are Bhairgaon, Dewáli, Lamgaondih and Semali. The entire Patti is held as *sadábart* and its revenues are administered by a local committee.

Band or Bund, a patti of parganah Dasoli in British Garhwál, comprises a small triangular patch of mountain land on the left bank of the Alaknanda river near Pípálkoti. It is held in *sadábart* and is administered by the local committee. It was formed from Dasoli in 1864 and the Patwári of Dasoli Talli, usually resident in Nandprayág, still collects its revenue. The principal village is Bairagna where there is a school. There are copper mines at Bantoli in this Patti, but they are not now worked.

Bandarpunchh (or Bandarpunchh, 'the monkey's tail'), a mountain mass forming a collection of peaks known as the Jamnotri peaks in the records of the Great Trigonometrical Survey. Three peaks are laid down in the maps as Srikánta, 20,130 feet; Bandarpunchh, 20,758 feet; and Jamnotri, 20,038 feet.

Fraser writes:—"As seen from the south-west two lofty and massive peaks rise high above the rest, deep in snow, from which all the other inferior ridges seem to have their origin. These peaks are connected by a sharp neck, considerably lower than themselves. The south and south-east exposure is the least steep, and bears a great depth of pure unbroken snow. Little or no rock is seen except a few points at the ridge of the conecting neck, where it is too sharp and steep for snow to lie; and there it appears of a red colour. Here and there lofty precipices are seen in the snow itself where the lower parts have melted, and masses have given way and slidden down to the ravines below, leaving a face several hundred feet high, that shows the depth of snow which has accumulated for ages. The name of Bandarpunchh properly applies only to the highest peaks of this mountain: all the subordinate peaks and ridges have their own peculiar names. Jamnotri has referen

only to the sacred spot, where worship is paid to the goddess and ablution is performed. According to native accounts there are said to be our peaks which form the top of Bandarpunchh, only two of which are seen from the south-west and in the cavity or hollow contained between them tradition places a lake or tank of very peculiar sanctity. No one has ever seen this pool, for no one has ever even attempted to ascend any of these peaks. Besides the physical difficulties the goddess has especially prohibited any mortal from passing that spot appointed for her worship."

The landholders aver that every year, in the month of Phágun, a single monkey comes from the plains, by way of Hardwár, and ascends the highest peak of this mountain, where he remains twelve months, and returns to give room to another; but his entertainment must be very indifferent and inhospitable, as may be inferred from the nature of the place; for he returns in very sad plight, being not only reduced almost to a skeleton, but having lost his hair and a great part of his skin."

Jamnotri.

The group of hot springs known as Jamnotri is only about 500 yards below the place where the various small streams that unite to form the first waters of the Jumna fall into a basin below. Hence they shoot over the brow of a rock projecting from the snow and pass down where the rocks again close over the stream, and though not so lofty as those below interpose a bar to progress upwards in the bed of the stream. At the place where it is customary to perform ablution the north-east side of the river is very steep and the rocks about here seem to be quartzose, and chiefly white, but exhibiting different shades and colours. The structure is laminous, and from between these laminæ run several small streams of warm water, forming together a considerable quantity. There are several other sources in which the water bursts up with great ebullition, and one in particular, from which springs a column of very considerable size, is situate in the bed of the river between two large stones, and over it falls a stream of the river water. This water has a temperature of 194·7°, nearly that of boiling water, at an elevation of 10,849 feet above the level of the sea, and emits much vapour. The water is exceedingly pure, transparent, tasteless, and devoid of smell. A great quantity of red crust, apparently deposited by

the water, which seemed to be formed of an iron oxide, and some gritty earth, covers all the stones around and under the stream. This, on exposure to the air, hardens into a perfect but very porous stone, whilst below the water it is frequently mixed with a slimy substance of a very peculiar character, of a dull yellowish colour, somewhat like isinglass, certainly a production of the water as well as the above crust, for it covers the stones over which the stream runs, and is very abundant."

The violence and inequality of the stream frequently changes the bed of the river. Formerly it lay on the side opposite to this rock, and the numerous sources of this warm water were then very perceptible, many of them springing from the rock and gravel to some height in the air, but several of these are now lost in the present course of the stream. These warm springs are of great sanctity, and the spot for bathing is at that point before mentioned, where one of a considerable size rises in a pool of the cold river water and renders it milk warm. This jet is both heard and seen, as it plays far under the surface of the pool. These springs have all particular names, such as Gaurikund, Taptakund, &c., and, as usual, a superstitious tale is related concerning their origin. Thus it is said that the spirits of the Rishís, or twelve holy men who followed Mahádeo from Lanka (after the usurpation of Ráwan) to the Himálaya inhabit this rock and continually worship him. (J. B. Fraser's Journal, pp. 418—430; As. Res., XIV., 395; *Ibid.*, 324, 327.)

Banelsyún, a patti of parganah Bárahsyún of British Garhwál, is bounded on the north by pattis Kandwálsyún and Sitonsyún; on the south by the Nyár river, separating it from parganah Ganga Salán; on the east by pattis Manyársyún and Gangwársyún and on the west by the river Ganges. In 1864 three villages were received from Kandwálsyún and five from Manyársyún. The patwári of this Patti, usually resident in Maklori, collects the land-revenue of Patti Kandwálsyún also; both, in 1864, aggregated Rs. 2,300 for land-revenue and *sadábart* and Rs. 158 for *gúnth* paid by 51,82 souls. There is a school at Khola. The patti comprises the lands lying between the Nyár river on the south and the Randi river on the north, both affluents of the Ganges. The principal villages are Byánsghát, Naugaon, Tari, Maklori, Khola, and Bajyúngaon.

Bangársyún, a patti of parganah Malla Salán in British Garhwál, is bounded on the north by Choprakot and Dhaundyálsyún; on the east by the latter patti and Meldhar; on the south by Sábali, and on the west by Talái. The principal villages are Sukhai and Joi on the Kainúr road; Baijirau, where the roads from Rámnagar to Kainúr and Almora to Páori cross the eastern Nyár by a bridge; Siloli and Haínsa. In 1864, Kumuliya was transferred to Dhaundyálsyún. The patwári of Choprakot, usually resident in Kanyúr, collects the land-revenue of this patti also. The eastern Nyár runs from north to south through the patti, which is sparsely inhabited and of little importance.

Bangarhsyún, a patti in parganah Bárahsyún in British Garhwál, is bounded on the south by pattis Kandwálsyún and Sitonsyún; on the north and west by the Ganges, and on the east by pattis Ráwatsyún and Idwálsyún. The patwári of Ráwatsyún, resident at Marguna, collects the revenue with that of Patti Sitonsyún. This patti comprises a small strip of land lying along the left bank of the Alaknanda and traversed by the Hardwár and Srínagar road. It contains the villages of Kándi Bidyakoti, and Kolású.

Bánjbugr, a resting-place on the route from Nandprayág on the Alaknanda to Baijnáth on the Gumti, is situated in patti Nandák and parganah Dasoli of British Garhwál, distant 14 miles from Nandprayág; 12 miles from Náráyanbugr, where the Pindar is crossed by a bridge, and 11 miles from Dúngari on the right bank of a tributary of the Pindar. The journey from Nandprayág is often broken at Ghát, 10 miles from Nandprayág; and here too the road to Rámni branches off. From Nandprayág the road to Bánjbugr follows the left bank of the Nandákini river and is bridged throughout where necessary. It is gently undulating without any steep or difficult ascents. Chimtoli village lies half way and besides this the villages of Mahar Bagti, Ráj Bagti, Gandásu, and Nágbugr lie on the right bank of the river. Thirpao and Chimtoli are the only villages on the left bank. The scenery in parts is very picturesque and the hills well covered with forest. From Ghát to Bánjbugr the valley contains some bits of the prettiest scenery in Garhwál. At Bánjbugr the road to Náráyanbugr turns off to the right and that to Dúngari to the left.

Báns, a halting-place with bungalow on the road from Almora to Pithoragarh, lies in north latitude 29°-36′-44″ and east longitude 80°-11′-5″; in Patti Seti Talla of parganah Shor in Kumaon, distant 48¼ miles from Almora and 7¼ miles from Pithoragarh. The traveller's bungalow is in charge of a watchman and there is also a baniyá's shop. The road from Shor ascends the hill to the north-west of the Shor valley by an easy ascent of about 1,500 feet and enters a remarkably wide and open valley thickly studded with villages, amongst which Chhána and Bhúnmuna are noted for their oranges. The stream draining this valley flows into the eastern Rámganga on its left bank, where it is crossed by the iron suspension bridge. On the north the peaks of Iriárikot (6,884) Asur-chula (6,990), and Bhúnmuni (5,728 feet) run from east to west to the Rámganga; on the east the ridge dividing it from the Shor valley attains a height of 6,898 feet, and on the south the water-shed above Pábhe has an elevation of 5,775 feet above the level of the sea.

Bárahmandal, a parganah in Kumaon, contains seventeen Pattís, each of which is separately noticed, *viz.* :—Bisaud Malla, Bichhla and Talla; Borárau Palla and Walla: Dwársaun, Kairárau, Kálígár, Khaspurja, Uchyùr, Ryúni, Syúnara Malla and Talla, Tikhún Malla and Talla and Athágúli Palla and Walla. These comprise 519 mahál or estates containing 601 villages. The land tax has been assessed thus:—

1815.	1816.	1817.	1820.	1823.	1825.	1833.	1843.	*Current.*
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
9,241	10,147	11,073	14,767	16,956	16,896	17,328	18,075	36,833

The current assessment falls at Rs. 1-1-0 per acre on the assessable area and at Rs. 1-6-3 per acre on the assessed cultivation. The assessable area comprises 34,724 *bisis*, of which 8,208 are culturable and 26,516 are cultivated (2,840 irrigated). The population at the time of settlement numbered 31,740 males and 28,434 females; in 1872, 67,425 (31,395 females) and in 1881, 60,848 (29,683 females). The exemptions from the land-tax for the support of temples and individuals amount to 1,678 *bisis* assessable at Rs. 3,308 per annum. Besides these 2,948 *bisis* are held in fee simple.

This is the central parganah of the district and contains the capital Almora. It occupies the whole upper basin of the Kosi above the great turn of that river to the westward below Almora,

and also the upper portion of the basin of the Gagás, a tributary of the west Rámganga. Mr. Batten's description of the parganah holds good to the present day :—"The whole tract is richly cultivated and thickly peopled, with the exception of the highest mountains and these are by no means difficult of access, nor do they present any stupendous features in the landscape. The climate of the parganah is for the most part very fair, the height of the villages above the sea varying from 6,000 feet to 3,500 feet, the main valleys however rarely falling to the latter level. Perhaps in no part of the hills can anything more beautiful be seen than the valley of the Kosila in Borarau, especially near Someswar. The mixture of the natural scenery of wood and water, the care-displaying fertility of innumerable fields, and the sprinkled human habitations remarkable for their pretty architecture, make up a picture which it would be difficult to equal in any part of Asia. The cheerfulness and abundance, too visible in the neighbourhood of Almora itself and Hawálbág, are well known and make up for the absence of grander natural features. It is hardly an exaggeration to say that on the north-west face of the Almora hill from ridge to base there is not a yard of land uncultivated. The cereal grains from the chief productions of the soil, and in Borárau, Kairárau and Athágúli, sugarcane, cotton and linseed are also frequently seen. The two former, however, are not grown as profitable staples, but for home use, nor is there any manufacture of saleable *gur* or other preparations of sugarcane. Throughout the whole parganah, but especially in Malla Syúnara, the fruit of the hill pomegranate (*dárim*) is a most plentiful and valued production, the extracted juice being sold in the bazar as a fine acid, and the outside rind taken in large quantities to the Tarái market under the name of *naspát*, as an important article in the dyeing and tanning trade. Walnuts, oranges, lemons, and plantains also are very abundant. This orchard wealth is daily increasing, whereas, under the late Government, from the mere wantonness of the Gorkháli soldiers in cutting down garden wood, the villages were becoming more and more denuded of fruit trees."

Bárahmandal, as its name denotes, originally comprised twelve circles or sub-divisions. As we have seen in the fifteenth century all these sub-divisions were each under its own rája[1]. Udyán Chand

[1] Gaz, XI., 527.

in 1420 A. D. reduced the Bisaud and Mahryúri Rájas to submission, and some seventy years later Kírati Chand completed[1] the conquest of Bárahmandal, driving the Bisaud rája from the remainder of his possessions, capturing Syúnara and colonizing the Bora and Kaira Raus with people of those castes. It was not, however, until 1560 A.D. that Bálo Kalyán Chand[2] founded Almora and removed the Chand capital from Champáwat, giving the tract around the name Kháspurja because it was distributed amongst the immediate followers of the court. Syúnarakot was the old capital of the Syúnara rájas and still shows traces of the fort and the *surang* for supplying the garrison with water. Tikhúnkot was the capital of Tikhún and was founded by a Khasiya of Rankil who was forced to surrender by having the water cut off from his fort. A Chilwál Khasyia was the author of this piece of treachery and received the *kamínachári* dues of several villages as his reward. The Ryúni people received several privileges as the dándi-bearers of the Chand rájas. Uchyúr was always noted for its soldiers who composed till lately a considerable proportion of every Kumaoni contingent. At Amkholi near Tákula was an old Katyúri city, regarding which many stories still exist : see TAKULA.

Bárahsyún, a parganah in Gárhwál, comprises fourteen Patti or sub-divisions, each of which is separately noticed, *viz.*, Banelsyún, Bangarsyún, Gagwársyún, Idwálsyún, Khátsyún, Kandwásyún, Kapholsyún, Manyársyún, Nádalsyún, Paidúlsyún, Patwásyún, Ráwatsyún, Sitonsyún and Aswálsyún. The land-tax at each settlement was assessed as follows:—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	*Current.*
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
5,005	6,143	6,593	8,151	10,102	10,423	10,555	10,652	17,865

At the current settlement there were 506 estates comprising 648 villages, containing an assessable area of 29,197 acres, of which 25,726 were cultivated. The receipts of 1861 amounted to Rs. 11,448, of which Rs. 363 were *sadábart* and Rs. 348 *gún* and *muáfi*, represented by Rs. 1,221 in the total of the new assessment. The water-mill rent amounted to Rs. 71. The land-tax falls on the total assessable area at Rs. 0-9-9 per acre and on the cultivation at Rs. 0-11-1 per acre. The population in 1841 numbered 22,063 souls (9,942 females); in 1853, 33,497 (16,491 females);

[1] *Ibid.*, 534. [2] *Ibid.*, 539.

1858, 34,232 (16,530 females); in 1872, 44,727 (22,544 females), and in 1881, 48,220 (24,582 females).

Bárahsyún, as its name implies, originally consisted of twelve sub-divisions named after the clans that occupied them. It is bounded by the Nyár river on the east and south and the Ganges on the west. The hills throughout are for the most part bare of wood; but the whole tract, with the exception of some portions of the river glens, is eminently fertile, and bears a resemblance rather to Kumaon than to Garhwál. The villages are large and the population plentiful and industrious. Each patti generally has its own separate valley, and the surplus produce is sold at Srínagar, on the pilgrim road, and in the plains; tobacco of a good quality is produced in low situations and sugarcane is sometimes seen. Hemp is but rarely grown; neither do the people use sheep and goats for the purposes of traffic. Their dress also is more frequently made of cotton than of hempen cloth, and woollen apparel is quite unknown. Land being here valuable gives rise to considerable litigation, and the vicinity of the courts (perhaps the cheapest to suitors in all India) enables many of the inhabitants who are fond of law to gratify their inclination. This part of the country was very much injured by the oppressive rule of the Gorkhális; but, even in the time of the Rájas, near the close of last century, General Hardwicke describes the tract as wretchedly waste. Now it is highly cultivated, the population has more than doubled, and there is no part of the hills wherein the benefits of our rule are, more conspicuous to the eye or more often recited to the ear. Clay slate and quartz rock almost exclusively prevail.

Bárabisi, a patti of parganah Sira in Kumaon, lies between the Rámganga river to the west and the Kálápáni or Bichol river to the south and east; on the north it is bounded by the Athbisi pattis; and on the south by Seti, Talla and Kharáyat of Shor. The road from Pithoragarh to Thal runs through this patti to the Rámganga valley, passing by Bichol and Luwákot, in a north-westerly direction. The Askot road running north crosses the north-eastern end of the patti by Kanauli and Shirauli. Bárabisi is comparatively open and highly cultivated; the head-waters of the Kálápáni form [redacted] drainage lines and the main stream the southern boundary

to its junction with the Rámganga on the left bank in latitude 29°-39′-50″ and longitude 80°-11′-0″. There are copper mines at Haráli, seldom worked now. The total assessable area comprises 2,263 *bísis*, of which 862 are culturable and 1,400 are cultivated (381 irrigated). The land-tax yielded Rs. 624 in 1815 ; Rs. 940 in 1820 ; Rs. 1,075 in 1843, and is now fixed at Rs. 1,855 for the term of settlement, with an incidence of Rs. 0-13-1 per acre on the whole area subject to the payment of land-revenue and of Rs. 1-5-2 per acre on the portion cultivated. The population at the time of settlement numbered 3,066 souls, of whom 1,627 were males. Some 66 *bísis* are held free of revenue. There is a school at Luwákot. The patwári resides at Aganya.

Bárahát, a village in the patti of the same name in parganah Rawáin of native Garhwál is situate on the right bank of the Ganges or Bhágirathi, about 40 miles above Tihri. The houses are built of large stones and covered with slabs or coarse slates laid on strong timbers. At the time of Raper's visit, in 1808, they were generally ruinous, having suffered much from an earthquake in 1803, on which occasion between two and three hundred persons were killed, besides great numbers of cattle. From the central position of this place, there are lines of communication with various parts of Garhwál : the distance to Gangotri is estimated at seven days' journey ; to Jamnotri at five ; to Kedárnáth at twelve ; to Srínagar at six. Here travellers proceeding to Gangotri lay in provisions, as no supplies can be obtained higher up. In 1816 Fraser describes Bárahát as 'a most wretched place, consisting of not more than five or six poor houses surrounded with filth and buried in a jungle of nettles, thorns and the like.' Tradition records that it was once a place of note and contained fifty to sixty shops. The ruins of several temples remain. One at D[illegible]tihri is sacred to Siva as Visvanáth : hence the place is [illegible] as Uttar-Káshi. Parasuráma has also a temple and Murli-[illegible] and there are several places of ablution for pilgrims proceeding to Gangotri. At the Sukh-ka-mandir near the village is a remarkable trident or *trisúl* set up in honour of Siva. The base or pedestal, made of copper, is about three feet in circumference, and supports a shaft of brass twelve feet long, surmounted by a trident, having prongs each six feet long. The trident has been figur[illegible]

the plate given in a former volume,[1] where also Bárahát is identified with the Brahmapura of Hwen Thsang.[2] The natives assert that the Tibetans formerly held this country, and attribute to them the construction of this relic. The Brahmans maintain that this lofty trident is miraculously maintained perpendicular on its narrow base, and defy any one to overthrow it, but it is in fact fixed into the ground by an iron bar. There was formerly a temple over it, but this was destroyed by the earthquake of 1803. On the opposite side of the river near Utarwáni are the remains of a fort called Arásu and below it the Bára-gadh stream joins the Bhágirathi. Below Bárahát a *jhúlá* or rope bridge connects it with Srínagar, and below this a broad valley stretches for three or four miles consisting of table-land in which probably the river ran in former times. The Bhágirathi has here a wide channel, though still retaining much of the character of a mountain torrent.

Baráun (or Barháon) a patti of parganah Gangoli in Kumaon, is bounded on the north by patti Pungaráun; on the south by pattis Bel and Bherang; on the west by pattis Athgaon and Kumsyár, and on the east by pattis Bárabisi and Máli of parganah Síra. The eastern Rámganga flows along its eastern boundary. The principal villages are Belkot, Bhandárigaon, Bora-Sangarh, Dangigaon, and Bhubaneswar where there is a noted temple. The assessable area comprises 5,208 *bísis*, of which 2,812 are culturable and 2,366 are cultivated (596 irrigated). The land-tax yielded Rs. 343 in 1815, Rs. 545 in 1820, Rs. 850 in 1843, and is now fixed at Rs. 3,024, which falls on the whole assessable area at Re. 0-9-3 per acre, and on the cultivation at Re. 1-4-5 per acre: 2,147 *bísis* are held in fee-simple and 303 are held free of revenue. The population at the time of settlement numbered 4,312 souls, of whom 2,339 were males: 21 villages were transferred to Athgaon to form a new patti; and four were received from Pungaráun at the recent settlement. There is a school at Beni-Nág.

Barmdeo (or Brahmadewa, or more correctly Mundiya), a mart in the Tallades Bhábar in Káli Kumaon, is the principal trading centre for eastern Kumaon. It is situate on the right bank of the

[1] Vol. XI., p. 512, and plates IX. and XXX. of J. A. S. Ben., Vol. V., p. 147. There is a similar trident at Gopeswar in British Garhwál. [2] *Ibid.*, p 453.

river Káli henceforward known as the Sárda or Ghágra, 50 miles east of Almora. Since 1850 it has become a place of considerable importance as the depôt for the trade from Tibet by the Dárma and Byáns passes and the Nepál trade through the market of Súr Mandi[1] on the opposite side of the river. There is a police-station and bazar removed to their present site near Tarakpur after the floods of 1880 had destroyed the old one. The inhabitants suffer much from malaria in the rains, and fever and diarrhœa are very prevalent, though not to such a degree as in the Bhábar below. The trade is carried on from December until May, and such statistics as are procurable will be found under the head, of 'Trade' in the article *Kumaun*.

The Kumaun chain—bold, lofty, and scarped, with a superb glacis of forest along its base—here meets the Doti mountains at a right angle; these if possible, clothed in still thicker forest, extend north and south, running far down in this last direction, with the Káli flowing at their foot so as to leave the Nepálese scarce room for their bazar. The river Sárda winds its way through the angle to the north-east where the mountains on the Kumaon side are scarped into lofty walls and pinnacles, on the topmost of which about eight miles distant is the far-famed shrine of Purnagiri, where Devi is adored by pilgrims from mountains and plains. Behind this the magnificent mountain of Nali-mun (5,498 feet) rises far above the forest: on its western flank is the pass to Champáwat by Sanmuna. The Káli opposite the mart is about 100 yards across, and from ten to fifteen feet deep, perfectly clear and flowing with a strong steady current. The station of the great Trigonometrical Survey close to the bazar lies in latitude 29°-6′-30″ and longitude 80°-11′37″ at an elevation of 866 feet above the level of the sea. A canal has been constructed at a cost of three lakhs of rupees to carry 200 cubic feet of water per second, and draws its water from the Káli, a little above the bazar. It is intended for the cultivation in the Bhábar at the foot of the hills, and would have been very successful notwithstanding occasional injury by floods, especially in 1880, if the people could be induced to turn to irrigation here. Madden's visit to the Purnagiri temples like almost all his

[1] It is said that the Nepál Government receive Rs. 25,000 per annum in transit dues at this mart. Barmdeo is a *goth* about four miles above Munsiyari bazar.

writings is worth reproduction. They lie almost eight miles east-north-east from Barmdeo; the route follows the old Champáwat road for about two miles, undulating on high ground covered with forest, the Káli following beneath on the right hand in a magnificent gorge. The path then quits the main road near Ráníhát, and for the rest of the way is rugged and difficult, the Ladagár torrent following in a woody ravine on the left. The elevation of the shrine is almost 3,000 feet above the sea; at this level though greatly cooler than Barmdeo, the malaria of the Bhábar still prevails, with *sál* forest and fine clumps of bambu which being sacred to the Devi are never cut; the popular belief being, that if converted to use, scorpions and centipedes innumerable would issue forth to punish the sacrilege. Nothing can surpass the beauty and variety of the scenery about Purnagiri: nature absolutely revels in the luxuriance of the universal vegetation, which no American forest, north or south, can possibly exceed; but to superstition alone are we indebted for a path through and over the otherwise impassable thickets and precipices. The first symptom of sanctity in the wilderness is a small *marhi*, dedicated to Bhairo as door-keeper; here the pilgrims leave their shoes; and no man of low caste or of a notoriously bad or even unfortunate character or filthy in person or discourse is knowingly allowed to advance further.

Purnagiri.

Túnias lies in a sheltered glen about 200 feet below the westernmost of the three shrines; it is a small, black-domed structure, coated with copper, and placed on the crest of the great mural precipice of sandstone which here faces the south. A little to the south-east this wall termin ates and the mountain springs up into a very lofty and remarkable pinnacle of rock, presenting a precipitous face to the river, which rolls at its base in a winding chasm of vast depth, the waters generally calm and of *lapis-luzuli* tint. The gorge makes a rapid bend here, which brings the current right against the upper end of the cliffs, which perhaps owe their existence to its slow operation. Each shoulder of the rocky pinnacle is consecrated by its temple, the easternmost being the most sacred and of very difficult access over cliffs and razor-edged ridges. Here the animals are sacrificed, the Brahmans appropriate the head and one shoulder of each beast with all the

cash they can extract, and considerable numbers of cocoa-nuts, the offering of which seems a sign connecting the mountain goddess and her rights with the ocean-loving Káli of Calcutta. The acme of merit is attained by him whose offering, like Balak's, consists of seven goats. The peak itself is the adytum of the goddess where none can intrude with impunity; a fakir who ventured to do so in days of yore was pitched across the river and found flattened to a pancake in the *ban* of Doti (*Madden*).

Basantpur, a village in the eastern Dún, which gave its name to a parganah now absorbed. It was plundered by Husain Khan in 1575 A.D., and again by Khalilullah in 1655 A.D. (Gaz, XI., 545, 563).

Baun, a halting-place in Patti Malla Dárma of Kumaon, is situate in north latitude 30°-14′-20″ and east longitude 80°-35′-45,″ on the left bank of the E. Dhauli at an elevation of about 10,000 feet above the level of the sea. The population in 1865 numbered 270 souls, the largest in the patti. From the encamping ground a view of three large glaciers on the eastern slopes of the Panchachúli is obtained. The marches from Askot, according to Colonel Garstin, are (1) Baluwakot in Malla Askot, a village near whichthe Dárma people reside in winter; (2) Dharchula, the wintering station of the Byáns Bhotiyas; (3) Khela on the boundary between Talla Dárma and Askot; (4) Sobhula in Talla Dárma; (5) Chalkam in Malla Dárma; (7) Naling; (8) Baun or Go, and (9) Khimling, a village of tents usually occupied by Khampas from Hundes who have settled here. It is the last inhabited place on the route to the Dárma pass and is situate on the left bank of the Dawai which joins the Lissar to form the Dhauli above [redacted] It is five marches for laden sheep from Khimling to the [redacted] the pass at Dovábi.

Bel, a patti of parganah Gangoli in Kumaon, lies be[redacted]n the Rámganga (eastern) on the east and the Sarju on the west. These rivers unite at the Rámeswár temple to the south of this Patti the northern boundary is formed by the Athgaon and Baráun Pattis of the same parganah and the eastern by Pattis Bherang, Waldiya Malla and Ráwal. The Pithoragarh and Almora road runs east and west through Bel between the iron suspension

bridge on the Rámganga and that over the Sarju passing by Kotheŕa, Gangoli Hát, where there is a travellers' bungalow in latitude 29°-39′-23″ and longitude 80°-5′-24,″ at an elevation of 5,290 feet above the level of the sea, Kún, Panauli, and Hanera. To the north of the road are Sunár, Phúrsil, and Uparára. To the south between it and the Búmbhil peak (7,107 feet) are Ol and Pábhe. Between this range and the Sarju lie Nangálti, and Askora above Rámeswar. The assessable area comprises 3,322 *bísis*, of which 1,733 are culturable and 1,588 are cultivated (238 irrigated). The land-tax yielded in 1815 Rs. 344, in 1820 Rs. 526, in 1843 Rs. 743, and is now assessed at Rs. 1,855, which falls on the whole assessable area at Re. 0-8-11 per acre and on the cultivation at Re. 1-2-8 per acre. One village was received from Rangor and 37 were transferred to Athgaon at the recent settlement. The patwári usually resides at Gangoli Hát and collects the revenue of Bherang also.

Belkhet (or Bhilkhet), a camping place on the road from Barmdeo to Champáwat on the right bank of the Ladhiya river, is situate in Patti Tallades and parganah Káli Kumaon in north latitude 29°-12′-30″ and east longitude 80°-12′-10″, about 13 miles from Barmdeo and 12 miles from Chhirapáni. From Barmdeo the road passes up a gradual ascent, interrupted by torrents, over the Bitrigár carrying a good stream of clear water; next Malla and Talla Deh, two small cultivated crater-like depressions and a little higher the Túngagár stream, near which are the Syála tarns. A steep ascent leads to the Bayalchína pass, over 4,000 feet high, on which is a *naula* or covered well built by Mr. Lushington, a late Commissioner. The descent to Belkhet is long and latterly very steep, there is neither a bungalow nor a shop for grain here, and supplies have to be obtained from either Barmdeo or Champáwat. The scenery of this march is pretty, and everywhere the valleys and mountains exhibit the most exuberant vegetation. The *Pothos scandens* covers the trunks of large trees on the northern aspect of the Bayalchína pass, where also in the damp half dark glens the more beautiful Wallichia palm occurs in profusion, with occasional specimens of the wild plantain. On the southern side of the pass, especially near the Túngagár, the *kal janka* (*Thunbergia coccinea*) climbs the trees, and towards the summit, *Cissus serru-*

lata covers every rock and *Olea glandulosa* forms a timber tree. The valley consists of greenstone and dolomite; the mountains to the north exhibiting green and blue dolomite in vertical strata with hornblende slate near the Ladhiya. The summits are of gneiss and granite, which last Dr. McClelland found reposing on gneiss and hornblende slate on the south-west declivity of Chhirapáni.

From Belkhet to Chhirapáni, about twelve miles, the road follows the right bank of the Ladhiya for a mile or more, and then under the small village of Uparkot, crosses the stream where the entire width of the glen is occupied by its channel of stones and huge boulders, the latter rudely piled on each other with a general dip towards the head of the stream. Here the Ladhiya receives in its left bank the Bhubkula up which the road proceeds and rises rapidly. The first pass is attained at the village of Kukrauni; hence along an undulating ridge two miles to Salli; there is a *deodár* grove and a spring called Brahm about a mile beyond this, a little down to the east. Here commences the second pull up one of the great spurs of the Kánadeo (7,248 feet) range and only terminates about three quarters of a mile short of Chhirapáni which lies rather beyond the highest point of the pass. The declivities on each hand during this ascent are extremely steep and deep. Chhirapáni derives its name from a small stream which falls over the rocks here in a petty cascade. There is a bungalow and tea-garden here, and the elevation is 6,569 feet above the level of the sea. Close by on the east is the temple-crowned peak of Kánadeo; beyond a *col*, the range is continued eastwards in two other peaks (6,235 and 5,536 feet respectively). To the south Náli-Mun is conspicuous among the outer ranges; north-west is the highly cultivated vale of Chárál, to the north-east Thákil is seen and to the north are far on each side the snows. Hence to Lohughát (*q.v.*) ten miles.

Bhábar (or Bháwar) is that portion of the Garhwál and Kumaon districts which lies between the base of the hills and the Bijnor and Tarái districts. The Bhábar portion of Garhwál (*q. v.*) is so small and unimportant that it is omitted from the present notice which consequently refers only to the tract along the foot of the hills containing no purely hill village and lying between the Sárda on the east and the Kotirao or Phika on the west. It includes the Bhábar

portions of Pattis Tallades in Káli Kumaon, Chaubhainsi in Dhyánirau, Chhakháta and Kota, and the Chilkiya *ilákah*. It is to be distinguished from the Bhábar tahsíl which for administrative purposes includes the hill portions of Kota and Chhakháta, and parts of parganahs Dhaniyakot, Dhyánirau, Phaldakot, and Rámgár. The census of 1881 gives the population of the Bhábar tahsíl in February as 132,360 souls, but with the bursting of the buds on the *sisu* in March—April, the majority of these return to the hill villages. The Bhábar tahsíl may therefore be considered as divided into the upper or Pahár portion included in the general notice of the Kumaon district and the lower, lying below the hills with which we have to deal here.

The physical characteristics of the Bhábar have been sufficiently explained in a previous volume.[1] It may well be described as the land of jungle and torrents usually dry in the summer. The only permanent streams of any importance being the Nandhaur or Deoha, Gaula, and Kosi, each of which is separately noticed. Commencing on the east with the Tallades Bhábar we find it bounded by the Sárda, which separates[2] it from Nepál. Next the Sárda comes the numerous torrents flowing directly into the Sárda.[3] Then the Chíni torrent which uniting with the Kulauniya or Pandwáni again divides into several branches in the Tarái. Nothing can be more confusing than the nomenclature of these streams, some of which possess three or four names in a course of twenty miles. Some divide or coalesce with others and again divide according as they get a larger or smaller supply of water. One year one of a group carries the main stream and another year another. The country between each main channel being cut up by torrents divided by low *sál* covered spurs running into the grassy savannahs which wherever great moisture exists are covered with tangled almost impenetrable undergrowth and great cane-brakes. West of the Pandwáni comes the Lailar or Kámun between which and the Ghún or Gúmti the country is much cut up by torrents. A low spur here runs down from the hills covered with *sál* and a thick undergrowth. There is a large swamp in the bed of the river opposite Marwa and to the

Eastern Bhábar.

[1] Gaz., X., 85—99. [2] See further articles—Barmdeo and Haldwáni.
[3] For this portion of the Bhábar in 1853, see Lieut. Burgess' report in Sel. Rec., N.-W. P., III, 115, Allahabad, 1867.

south of the Ramsay road. Beyond this is the clearing called Gangapur, a narrow strip of grass land extending from it to the foot of the hills. Then across several torrents to the Betáli savannah and beyond it the Hanspur *chaur* and the Nandhaur or Deoha. The Chaubhainsi Bhábar extends from the Laibar or Kámun to the Sukhi west of the Deoha. Between the Deoha and the Sukhi is the great Chorgaliya clearing with its numerous settlements. West of the Sukhi comes the Chhakháta Bhábar and the immense sheets of cultivation having Haldwáni as their centre and watered by the Gaula.

Western Bhábar.

West of Chaonchala comes the Kota Bhábar and west of the Kosi, the Chilkiya *iláka*h. These are all much more free from jungle and contain very much larger areas under cultivation and more permanent villages than the tract east of the Nandhaur. It is here also that the wonderful system of irrigation by which all the spare waters of the hill rivers are brought under control is seen in perfection. Clearances, too, have so ameliorated the climate as to allow of people remaining in many places during the whole year. The great road from the Sárda to the Ganges, known as Ramsay's road, passes through the whole tract besides good metalled roads from Bareilly to Ránibág and from Moradabad to Káladhúngi, and now the railway to Ránibág passing by Haldwáni will revolutionise the economic bearings of this tract and render its possession in every way more valuable. Rámnagar is the mart for Kota and Haldwáni for Chhakháta, both are rising towns and have a separate notice.

Administration.

The three men who have moulded the fortunes of Kumaon are the same who have administered the Bhábar, and on their reports we have to rely for our information:—Mr. Traill up to 1835, Mr. Batten from 1840 to 1850, and Sir Henry Ramsay from 1850 to 1884. Traill found the Bhábar the haunt of banditti; continually recruited by the outlaws which the disorganisation of the previous half century produced in numbers. For some years he was engaged in a paper war with the plains authorities about the boundaries, and was always complaining of the dakaits who, driven from the lower country, found a safe asylum in the swamps of the Tarái and the jungles of the Bhábar. In a previous volume I have given some account of the state of these tracts up

Mr. Traill.

to the British occupation. In his first report[1] on the Bhábar, Mr. Traill writes:—"In the direction of Kota and Chhakháta not less than fifty villages have been reclaimed within the last eight years. As a preliminary measure to the arrangement of the boundary it would appear indispensably necessary that the whole tract of the Tarái should be declared the free and disposable property of Government, with the reservation to individuals of such portions as may be in their actual occupation. This principle is founded on the inherent and undisputed right of the sovereign in the soil, which right must be considered in the present instance as existing in full force from the length of time since which the tract in question has relapsed to a state of nature, and which can consequently, with the exceptions above alluded to, be nowhere controverted by the claim of occupation. The sovereigns of Kumaon and Garhwál being then driven into exile were followed by a great number of their former subjects, and these latter settling chiefly in the Tarái of their respective principalities naturally preferred owing allegiance to the authorities in the plains rather than to the Gorkhális. As this latter power became quietly and fully established in its successive conquests the re-annexation of the Tarái became an object of its policy. In Kumaon proper this measure had been partly effected, and to this circumstance is owing the discordant claims of the Bilhari and Káli Kumaon zamíndárs which are now under litigation. A further cause of the vicissitude of jurisdiction is to be traced to the wandering habits of the Thárús and Bhoksas, the two tribes who chiefly cultivated in the Tarái. These persons holding an undisturbed monopoly of a vast extent of territory, and being the objects of rivalry to two Governments, removed in whole communities to or from the foot of the hills according as caprice or interest dictated. The spot where the new cantonment was established, immediately assumed the name of the deserted village, and in this manner the same name became inscribed in the records of both the plain and hill [illegible]hs, while the practice of paying revenue to both Governments to ensure double protection also led to the same confusion." [illegible]ch a height had these disputes risen that we find them occupying a great portion of the correspondence of the years 1823-26, and the

[illegible]ry disputes.

[1] 15th January, 1822, to Government.

question of the boundary between the Bhábar and Rohilkhand was then the burning one of the day. So early as January, 1820, Mr. Traill brought to the notice of the Board of Revenue the existence of a fruitful source of quarrel in the unsettled state of the frontier towards Moradabad, and the Collector of that district was directed, in concert with the Commissioner of Kumaon, to adopt measures for the demarcation of the boundary between their respective districts.[1] Delays arose as it was hoped that the regular survey of the Moradabad district would soon take place, and it was not until 1823 that final instructions were issued to Mr. Traill and Mr. Halhed to undertake the survey and settlement of the boundaries of their respective districts. Mr. Traill stated the case for the hillmen, that from the want of pasture in the hills they were obliged to send down their cattle to the Bhábar, where they remained during the greater part of the year. This practice led to the settlement of several new villages, not less than fifty having been reclaimed from the jungle between 1817 and 1823. The greater number of these villages were situate on the frontier towards Rohilkhand, where the facilities for irrigation were greater than in other parts of the Tarái, but the conflicting demands arising from divided jurisdiction had hitherto prevented the development of cultivation such as might have been anticipated. An affray occurred at Tanda, which, although it lay within the customs posts and chain of military parties established by the hill authorities, had been given in farm by the Collector of Moradabad to a person from the plains. Mr. Traill accordingly submitted a list of tracts which he

[1] To Board, dated 1st January, 1820.
From Board, dated 21st January, 1820.
To Board, dated 15th January, 1822.
From Board, dated 9th April, 1822.
From Board, dated 24th January, 1823.
To Board, dated 27th January, 1823.
From Board, dated 5th February, 1823.
To Board, dated 24th February, 1823.
To Board, dated 12th September, 1823.
From Board, dated 6th October, 1823.
From Board, dated 17th November, 1823.
From Board, dated 24th November, 1823.
From Board, dated 11th June, 1824.
From Mr. Halhed, Moradabad, dated 24th March, 1823.
To Mr. Halhed, Moradabad, dated 28th March, 1823.
From Mr. Halhed, Moradabad, dated 30th April, 1823.
To Mr. Halhed, Moradabad, dated 4th June, 1823.
From Mr. Halhed, Moradabad, dated 19th August, 1823.
To Mr. Halhed, Moradabad, dated 4th September, 1823.
From Mr. Halhed, Moradabad, dated 4th October, 1823.
To Mr. Halhed, Moradabad, dated 7th October, 1823.
To Government, dated 25th [illegible] 1823.
To Mr. Halhed, Moradabad, da[illegible] August, 1824.
To Mr. Halhed, Moradabad, d[illegible] August, 1825.
To Mr. Halhed, Moradabad, d[illegible] October, 1825.
To Board, dated 17th January
To Board, dated 21st Novemb
From Board, dated 30th Novm

desired to have excluded from any farming leases which might in future be granted by the plains authorities. The principal disputes were between the lessees of the farms of forest produce and grazing tax appointed by the hills and plains authorities respectively. The customs-stations of the hill farmers were placed on the immediate frontier at points where the various tracts into the forest joined on the main road and in several instances for the convenience of water, within the boundaries claimed by the landholders of Rohilkhand. It was eventually determined that an experimental boundary line should be made by a line drawn from one spur or promontory of the lower hills which all along the frontier jut out into the plains, to the adjacent one; and to Mr. Halhed was entrusted the task of demarcating this line along the whole border of Bareilly and Moradabad and the villages to the south of that line, and the farming leases of forest products were to be transferred to the adjoining districts of the plains.

Mr. Traill writes[1] in 1823:—

Traill on history of dues.

"The *gái-charái* had from time immemorial formed a part of the public assets in Kumaon, and had continued to be separately leased to individual farmers from the conquest. The collection of this impost in a portion of the Kumaun forests had been formerly made over to the principal chaukidárs—Ain Khan and Ami Khan—for the support of their respective establishments. On the abolition of the chaukidári system in 1817, the collection of this impost within the limits in question naturally ceased. The arrangement in 1820 was made to re-annex the *charái* duties there to the rent-roll. The only other novelty in that measure was the simplification of the duties by fixing them at a specified rate per head of cattle in lieu of former numerous items such as *ghikar, donia, gobar, angal*, &c., under each of which separate demands were made from the herdsmen." (The leases given were objected to by Mr. Halhed, and in reply Mr. Traill goes on to say that the rates were fixed in the leases and were less than the former dues.) "The military parties in the forests are in no way available for revenue duties, being stationed there solely with the view of protecting the life and property of the hill-men from the attacks of the low-land dakaits and their interference in collections of any kind is peremptorily prohibited. It appears to me that far too much stress is laid on the spirit of encroachment said to be evinced by the hill zamíndárs; as far as my information goes, the Rohilkhand farmers and talukadárs are equally active in their attempts to extend the sphere of their demands, these conflicting claims without attributing particular blame to either party may fairly be deduced from former events. The whole of the jungle estates from Káshipur to Bilhári, formed, at a period not very remote and not greatly antecedent to the cession, an integral part of the Kumaon *rái*. Since the annexation of these *mahals* to Rohilkhand by the Nawab Asaf-ud-

[1] To Government, 12th September, 1823.

daula no regular and general adjustment of the boundary line between the two provinces has ever taken place, the kanúngoi records of those *maháls* necessarily exhibit the whole of the villages which originally formed a part of them, including some even within the hills.

"The Kumaun village-lists of the Gorkhâli Government contain those villages nearest to the hills, which continued invariably attached to them, and also many more advanced lands which were subsequently reclaimed and brought into cultivation by the inhabitants of this province; among the latter fall the disputed villages on the Moradabad frontier. The principle of assuming the projecting head lands for the points of demarcation, as proposed by Mr. Halhed, and approved by Govment, will require many modifications on the Moradabad frontier, as if implicitly followed, many of the villages of that district will be excluded from its jurisdiction. At the western extremity the taluka of Chandi enters far into the hills being intersected from the Ganges to Lal Dháng, by a low range of hills, branching off from the Chandi Pahár opposite Hardwár. From the villages of Lal Dháng, to another point of the same name on the Káshipur frontier, and from thence to Gaibuwa, the indentations in the lower range are frequently extensive and contain many Rohilkhand villages, among others Chilkiya and Burhiya which by such an arrangement would be included in Kumaun. As the nature and extent of the temporary cultivation appears not to have been perfectly understood, it may be stated in explanation that from November until May inclusive, the entire population of the southern parganahs of Kumaon to the amount of certainly not less than thirty thousand souls annually migrate to the foot of the hills. The cultivation carried on by them in the Kumaon forests during these visits is considerable, and every means has been adopted to encourage it."

In January, 1826, a joint report was sent in and adopted by Government; from the Ganges to the Rámganga the lower range of hills was taken for the boundary, and from its having few openings or bays presented no difficulty. From the Dharon river, seven miles west of Kotirâo to the Gaibuwa promontory, the principle of making the projecting headlands the points of demarcation was followed, and so far as possible those spots at which the cattle pens or *goths* of the herdsmen from the hills were established were included in the jurisdiction of the hills, whilst the hillmen were also allowed the privilege of pasture for their cattle in common with the men from the plains on payment of the usual grazing dues. From Gaibuwa the lower or southernmost range turns to the north whilst the existing line of jurisdiction continued in the general direction from north-west to south-east, and here the latter line was followed and demarcated through the forest, the boundaries recognized by the headmen of the adjacent tracts being adopted. A map was made showing all these points, and copies were sent to the chief officers of

Compromise effected.

the adjacent districts. Large trees were taken as the permanent marks where they occurred, near the base of the hills. Pillars of large stones were erected at intervals of four or five hundred yards, and where such materials were not procurable, pillars of brick masonry were constructed along the entire boundary. Towards Bijnor the Sanai Nadi where it unites with the Koh, about a mile below the junction of the Pauriyála, was taken as the boundary, and the entire arrangement was completed in 1832[1].

Bilhari and Oudh.

To the east the dispute between the representatives of Major Hearsey, who claimed the Bilhari parganah and the hill men, had also to be settled, and the commission appointed for the purpose fixed on the Saniha nála as the boundary between the Bhábar in eastern Kumaon and the Tarái belonging to the plains. This decision was based on the records before the British occupation.[2] Another object of dispute was the *sál*-covered island in the Sárda called Chandi-chak, and this was given up to Oudh for no apparent reason other than the pertinacity with which the claims to it were put forward by those interested in securing it. The importance of having correct boundaries was not in the least due to the value of the land for agricultural purposes, but to the grazing rights and in a secondary sense to the right of disposing of the forest produce, for it was on these two heads alone that the entire revenue depended in the earlier days of British rule. *Gái-charái* or grazing fees was one of the miscellaneous items of revenue retained at the British occupation as possessing some appearance of a due for the use of the land. In the hills they had been classed under *gobar*, *puchiya*, and *ghikar*; but these were abolished, and in the Bhábar they had been farmed to the hereditary chaukidárs or watchmen, the Meos or Mewátis and Hairis, by whom they were called *donia* from the *dona* or wooden-bar to which the cattle are tied at night. The full tax was levied only on the strangers who came to graze. During the first few years after the conquest it had not been necessary to bestow much attention on the Bhábar as it was practically waste and deserted, but with security to life and property the annual migration to the Bhábar recommenced, and the tax on grazing was again introduced and

[1] To Collector, Moradabad, dated 21st April, 1831. To Collector, Moradabad, dated 3rd May, 1831. From Government, dated 31st August, 1832. To Board, dated 12th June, 1832. [2] For references see Gaz., X., 348.

farmed in three leases for 1822-23 at Rs. 2,077 a year, but the cattle of headmen of hill and plains villages and of permanent residents in the Bhábar were declared to be exempt from the tax. In 1824, the collection of these dues was intrusted to the Bareilly and Moradabad authorities, but in 1826 this duty was restored to the administrators of the hill districts, and at the same time the plainsward boundary was arranged on a firm basis and the amount to be levied was fixed, and the persons who should collect these dues and those from whom the dues were to be collected were ascertained and made known to the people, so that we hear very little of them afterwards.

From a report[1] made in 1837 we learn that the portion of the Bhábar, included in Kota and Chhakháta, contained then:— 1837.

	Area cultivated.	*Waste.*	*Total.*	*Revenue.* Rs.
Kota ...	30,923	71,141	102,064	4,819
Chhakháta ...	29,067	51,971	81,038	2,011
	59,990	123,112	183,102	6,830

The area is calculated in *kotas* or *bighas*, but as no measurement had ever taken place the area given was based on the estimate made by the headmen and the villagers. Even so rough an estimate as this had never been made for the Káli Kumaon Bhábar. Seventeen of the Kota villages and twelve of the Chhakháta villages lying along the foot of the hills had been cultivated from olden time by the hillmen as their inalienable right. The headmen or *padháns* received two ploughs (*hal*) of land as their remuneration and relinquished this if they vacated office. The irrigation channels (*gúls*) were broken up every year in the rains and repaired fresh in November at the cost of the sharers. *Pahíkásht* cultivators paid five rupees per plough-land, calculated at as much as a pair of bullocks could plough in a day and that could be sown, the produce being eight to tenfold. A stranger sharer giving his aid received one-third; if supplying bullocks and seed two-thirds the produce. In prosperous years the profit was about Rs. 25 to Rs. 35 per plough-land after deducting cost of repairing water-channels, bullocks, implements, and seed. As a rule the main-crops

[1] To Board, 17th July, 1837.

were bad and did not pay. Since the introduction of British rule 38 villages were brought into cultivation in Kota and 23 in Chhakháta by granting the proprietary right to whoever cleared the waste. These new proprietors leased out the land to tenants-at-will at Rs. 2 to Rs. 4 per plough-land, whilst two villages in Kota and ten villages in Chhakháta on the Tarái border were leased to Bhoksas on a system of advances by the local landholders. The earlier settlements in the Bhábar were encouraged by the grant of full proprietary right for their entire holding to the persons who brought a tract into cultivation. This practice was in accordance with the system pursued by both the Rájas of Kumaon and the Gorkhális, and was found to promote in a great degree the reclamation of the forest waste.[1]

Still, considering the present state of affairs, in 1837 there was little cultivation in the Kota Bhábar though it was then the richest portion of the tract. Láljí Chakráyat was the principal landholder and compared with others was a man of some substance, who had materially aided in the development of the Bhábar by planting colonies of cultivators and arranging for their support. In the Chhakháta Bhábar from the foot of the hills to Tánda there was some show of cultivation close to the *gúls* or water-courses, but the experiment of digging a well made near Tanda showed that no water could be obtained at a depth of 180 cubits throughout the continuous belt of thick forest which existed there. Harak Singh Máhra, the patwári, was the most influential person in this tract. In the Tallades Bhábar there was hardly any cultivation and no permanent population, due to the extreme unhealthiness of the climate and the ravages of elephants and other wild animals.[2] The principal landholders there were Chaudhri and Bachhi Bargalli. Chorgaliya alone in the whole of this tract was well watered and well cultivated, and, indeed, this report represents fairly the state of affairs in the eastern Bhábar to the present day.

Mr. J. H. Batten.

We have in Mr. J. H. Batten's report[3] an interesting account of his connection with the Bhábar, which may be said to comprise the period 1840 to 1850. As this report gives the first detailed account of any settle-

[1] To Board, 21st November, 1826. [2] To Commissioner, 17th May, 1837. [3] To Board, 10th February, 1846.

ment of this tract, I shall summarise it here largely for its historical and practical interest and as fixing distinctly the somewhat vague localities of its predecessors. *Bhábar Tallades* under Káli Kumaon lies along the right bank of the Sárda as far as the junction of the Saniha *nála*, with a length of eighteen miles from Barmdeo and a breadth from east to west of ten miles. The southerly extension of this division is narrowed almost to a point above the junction of the Saniha, and near the deserted bed of the Sárda the land is too stony for agricultural purposes. Tallades differs from the rest of the Bhábar in the absence (in 1843) of surface irrigation from *gúls* or water-courses. The Saniha stream flows along the southern edge of the tract, separating it from the parganah of Bilhari, while the beds of the Jagbúra or Jagyara, which intersects the tract, and of the numerous torrent-ways which unite to form that stream, are almost dry in those parts where irrigation would alone be possible from their waters. The smaller streams which issue from the hills and run south-eastward to join the Sárda in the upper portion of the tract have so inconsiderable a body of water in their channels before they are lost in the gravel that irrigation from them to any extent is found impracticable. A little is attempted from two small streams at Bastiya and Gínda-khali immediately at the foot of the hills, but the quantity of water after February is said to be only sufficient for drinking purposes. In this tract, however, the tract of waterless forest is very narrow, and thereby presents a great difference from the western Bhábar, while without possessing the features of a regular river-valley it approximates in character to the country adjacent to the Ganges in the Saháranpúr district below Hardwár. Here, as there, the digging of wells is found practicable within a short distance of the hills. It may, therefore, be assumed that the great bed of rolled stones underlying the Bhábar is deepest in the centre of the country which separates the Ganges from the Sárda, and that the porous gravelly detritus thins out as the land slopes down to either of those great drains. In none of the Tallades villages, however, is irrigation from wells attempted, and (except in the rains, when the *sots* or small streams become full and capable of embankment) the Thárus of the lower part depend on the rains and dews of heaven, and on the natural dampness of the soil, for the moisture which their crops require.

Bhábar Chaubhainsi extends from the Saniha stream on the east to the Sukhi on the west. Within these limits are the Kámun or Kámani and its small tributaries, the numerous affluents of the Nandhaur or Deoha or Dewa or Garra, as it is variously called, the Dewa itself and its great branch the Kailás and finally some small torrents which join the Sukhi or eastern Bahgúl. This tract may be estimated at somewhat more than 30 miles in a straight line from the Timla pass to Asni and the breadth varies from six to twelve miles or more. Throughout the widely scattered clearings of this tract there is some *kharíf* cultivation and a few of the most hardy hillmen and *hális* in every clearing venture to remain and look after the rice-fields. Irrigation is easily carried on by means of small *gúls* taken off from the little streams which are so plentiful in this division, and no great embankments are required. Some of the clearings, however, are less advantageously situated in this respect, and there the *rabi* crops are the staple produce. This tract is peculiar in not swallowing up all the streams which pour into it from the hills. A great majority of these flow through the green forests, not unlike English brooks in the clearness and depth of their water (though some few are mere beds of torrents); and hence arise the excessive thickness and rankness of the vegetation in this tract. Some of the canebrakes and *khair* (*Acacia catechu*) thickets are absolutely impenetrable, preventing all cross paths from clearing to clearing. East of the Dewa, the country presents a series of savannah-like valleys between high elevations, some of the latter covered with *sál* forest, and all cut up by ravines and utterly waterless. These heights and hollows run down in a parallel southerly direction from the hills. The clearings occupy the several hollows here alluded to, and hence the more plentiful supply of water than is enjoyed by the people of the western Bhábar, where (outside the lower hills at least) such irregularities of the surface are unknown. There are no marts in Chaubhainsa, but a few shops are found at Jaula-sál, a principal pass from the hills in the centre of the tract, and sell grain to the timber cutters and other visitants of the forest. The Dewa river rushes out of the valley of Dúrga-Pípal (almost a Dún), and its waters are rapidly taken up by the hillmen for the

State of cultivation.

irrigation of Chorgaliya, where there is now a thriving settlement, connected with Sitárganj by a good road.

Bhábar Chhakháta extends from the Sukhi river on the east to the Bhakra on the west, a distance of 25 miles or thereabouts; while from the foot of the hills to the boundary of the Tarái the breadth varies form 15 to 20 miles. The Gaula river nearly equally divides and forms the main characteristic of this division. On the north-eastern extremity and close to the hills there is a set of small villages, watered by the numerous tributaries of the Sukhi, the bed of which river itself is dry in the upper and middle part of its course through Chhákháta.

Bhábar Kota extends from the Bhakra river on the east to the Koti Rao torrent on the west where it adjoins Garhwál, a distance of 35 miles or more. At the south-eastern extremity it extends very far into the plains, bordering on the Gadarpur parganah of the Tarái district, from which point it narrows considerably in the forest tract below Nayagaon and Kamola till it reaches the Kosi near Gaibuwa, beyond which on the opposite side of the river the hill Bhábar hardly extends further than the actual base of the mountain. The Patti is divided by Mr. Batten into (1) the Bhoksa villages belonging to the Chakráyat zamíndárí; (2) the Bhábar villages lying outside the lower hills; (3) the villages in the Kota Dún within the lower hills; (4) scattered villages at the mouths of the several passes; (5) the hilly tract called Kota lying between the Kosi and Rámganga occupied by occasional patches of cultivation, but without fixed villages. The first is now waste, the Bhoksas having moved down to Gadarpur, and compensation is still paid to the heirs of Moti Chakráyat amounting to Rs. 300 a year. This tract is commonly called Kála-banjar from the colour of the soil. The Bhoksas made great swamps here by banking the Kakrála, Nihál, and their branches and wasting the water. Portions of the second tract are improving considerably and are watered by the Baur and Dabka. The scarcity of water will always prove a drawback to the increase of cultivation, for beyond the range of the Kála-dhúngi canal very little is available.

The third tract or Kota (*q.v.*) Dún is exquisitely beautiful, showing a sheet of cultivation eight miles in length by three and

four in breadth, dotted with mango groves, and emulating on a small scale the rich central plateau of the Dehra Dún both in appearance and climate. The revenue of this tract has been proportionately good. The inhabitants are all hillmen and the tenure is for the most part zamíndári, though in a few instances the actual cultivators possess proprietary rights in their fields. Some of the *Padháns* are highly respectable men and far from poor, but they do not attempt, except very rarely, to produce on their lands anything more valuable than wheat, barley, rice, and the coarser cereal grains. Under more enterprising hands this Dún would probably become a grand field for the growth of cotton, sugarcane, and indigo, while the ginger and turmeric cultivation might be largely improved. West of the Dabka, which river here irrigates only its eastern banks, the Dún is chiefly a *sál*-forest with patches of cleared ground, with the exception of Patkot and Rámpur, the extensive lands of which are beautifully irrigated by the waters of the Bahmani river. The fourth tract or *ghát* villages is generally prosperous and resembles that described under the second head. The fifth division of the Kota Bhábar shows merely a series of hills and ravines, almost without water, which sufficiently explains the absence of revenue capabilities. The inhabitants and visitants of all the above described divisions of Kota belong to different parts of the hills, and not only to the upper Patti of the same name.

The population of the Bhábar is, with few exceptions, migratory, consisting for the most part of Kumaonis who arrive in November and return to the hills in April-May. In the upper portion of the Kota-Bhábar cultivation is as yet unknown, and it is only inhabited by the hillmen who come down to graze cattle. Through the lower Bhábar extensive clearings have been effected and grain of all kinds is grown. The principal crops are rape and millet. The cultivators congregate in temporary villages round their cattle-sheds and usually erect huts of posts connected with grass screens and loosely roofed with grass. Good stone houses are now, however, far from uncommon. They sometimes go as far as the Tárai parganahs, where they press all as servants of the Tháru, whose caste forbid them this occupation, and carry on a trade as money-lenders. *Kath* or catechu is manufactured by the women from the *khair* (*Acacia catechu*), and

wooden vessels for domestic use by a small colony of Munihârs near Barmdeo. There are a few small patches of cultivation near the western boundary of the Tallades upper Bhábar; further west the Chandni and Banbasa *chandas* or clearings commence, which continue with little interruption to the streams flowing into the Rámganga.

Statistics.

The following tables show the result of Mr. Batten's settlement of the Bhábar and the statistics of the earlier settlements :—

Bhábar.	*Number of*		*Assessment in rupees.*					*Area in acres in* 1846.			*Incidence of assessment per acre.*	
	Leases.	Villages.	1815.	1820.	1828.	1832.	1850.	Total assessable.	Cultivated	Cultivable.	On total area.	On cultivation.
			Rs.	Rs.	Rs.	Rs.	Rs.				a. p.	a. p.
Tallades,	15	29	...	147	436	409	354	5,757	834	4 923	0 1	6 9
Chaubhainsi.	25	43	...	184	909	949	815	6,259	845	5,214	2 1	15 5
Chhakháta.	49	77	123	808	1,6:3	2,05!	2,892	52,023	7,280	34,361	0 10	6 0
Kota ...	45	159	1,062	3,182	4,392	4,707	4,892	111,344	9,488	48,586	0 8	8 2
Total ..	134	308	1,185	4,321	7,360	8,116	8,953	175,383	18,447	93,084	0 9	7 9

It is to be remembered that the increase in the revenue is chiefly due to new lands brought under cultivation for the first time and not to enhancement on the land already cultivated. The figures for Chaubhainsi show six new and nine waste villages. These items were land-revenue proper as distinguished from forest dues (*kathbáns*) and grazing dues (*charái*). These latter for 1846 were assessed as follows :—

	Káli Kumaon.	Chhakháta.	Kota.	Total.
	Rs.	Rs.	Rs.	Rs.
Kathbáns	4,705	1,451	4,600	9,756
Charái	2,522	2,650	3,801	8,973

They give a total of Rs. 18,729, and with the land revenue a total of Rs. 27,682. In Tallades there were a few attempts at

kharíf cultivation, the cultivators coming down to the fields after sun-rise and again mounting to the hills at sun-set ; the night-air between May and October being considered fatal. Still what improvement it showed was entirely due to British rule, for under the Gorkhális there were no cultivated spots at all and few hill-men and fewer plains-men ventured into the tract. In Chaubhainsi care had to be taken to correct the defects of former settlements which left too little to the managers and sometimes ended in default, but the Bargallis of Chorgaliya showed what could be done by judicious selections.

Chhakháta.

In the Chhakháta Bhábar the difficulties attendant on the distribution of canal water caused some trouble. Here also are some old villages occupied since the time of the Chands, such as Khera Malla, and Talla Dyula and Kuapur on the left bank of the Gaula occupied by Máhras. Malla and Talla Bhamauri and Bhitauriya, Fatehpur and Paniyali on the right bank belong to Sons and Hairis from the neighbourhood of Bhím Tal. Under the former administrations the prosperity of these villages was very precarious, owing to the great insecurity of life and property, which were only partially preserved by the payment of "black mail" to the headmen of the Mewati robbers. When the British rule introduced an improved police administration (though till recently a very defective one), we find the Nayaks and other inhabitants of the Rámgár mountains behind the Gágar ridge descending into the plains, and appropriating the lands next below those above named. To this class belong Mukhani, the two Haldwánis and Kusm-Khera. At the time of their first settlement there was a large quantity of spare water and the great subsequent influx of cultivators into the Bhábar was not expected, the monopoly of the means of irrigation by the Nayaks became excessive whilst, although their rapidly increasing cultivation demanded a more heavy assessment, the revenue of the villages was maintained at *naudbad* or newly-cleared rates. The increase in the demand effected by Mr. Batten still left the incidence of the revenue less than in Kota. In all the upper and central portion of Bhábar Chhakháta the cultivators are hill-men. In the old settled villages the tenure is *bhayachára* as in the hills, and the several shareholders either cultivate their lands themselves,

or take their chance every season of finding temporary tenants and laborers among the large population, which comes down annually to the Bhábar. In almost all the newly established villages whether of Mr. Traill's time or Mr. Batten's the tenure is *zamíndári*, and the proprietary right is vested in the fiscal representative whose family first obtained the lease. Three-fourths of this cultivation belong to the *rabi* season, but in every village there are some fields dedicated to the *kharíf* harvest, which are tilled and cared for by *hális* and other low-caste men, who have for some years made the Bhábar their home and have become acclimatised.

Kota.

Of Kota, Mr. Batten writes:— "The rate of the highest land-revenue demand somewhat exceeds eight annas per acre, and in comparison with the rate in Bhábar Chhakháta the rate is far from low, although Kota for the most part possesses the advantages of a richer and deeper soil, and more easily supplied though not more copious irrigation. As far as any fiscal pressure on the people is concerned, no fear need be entertained, and in Chhakháta and Kota the majority of villages are able to pay their Government revenue entirely from the produce of their rape crops, while others consider the crops of *China* (*Panicum miliaceum*) or the intermediate crop between the spring and rain harvests, as amply sufficient for that purpose; the wheat and rice harvest being, therefore, a source of pure profit."

Irrigation.

So early as the year 1818, the attention of the Board of Revenue was directed to the irrigation of the Bhábar, and in that year they forwarded to Mr. Traill a report by Lieutenant Fordyce on the construction of water-courses, and detailing his experience in excavating one on the road between Bhamauri and Tánda.[1] Mr. Traill had already visited the Bhábar and considered the subject, but had found so many obstacles to the introduction of any extensive system of irrigation that he considered it premature to make any proposals on the subject. The difficulty of procuring tenants and the unhealthy nature of the climate, combined with the uncertainty of the right of the hill-men to draw off the water for their cultivation at the foot of the hills, deterred the landholders from entering

[1] From Board, dated 22nd May, 1818. To Board, dated 14th September, 1818. From Board, dated 8th January, 1819.

upon the cultivation of the Bhábar, although land of good quality was everywhere available. Physical obstacles also precluded individuals from attempting any system of irrigation which could interfere with the rights of the lowland cultivators. As has already been shown, the mountain streams almost always sink below the surface of the ground on reaching the base of the hills, and only reappear in the Rohilkhand Tarái, and the greater streams which keep to the surface were too formidable for any attempt to control their flow being made. Now, however, irrigation is extensively practised throughout nearly the extent of the Bhábar.

Irrigation in 1846.

In Mr. Batten's time there was no irrigation in the eastern Bhábar except around Chorgaliya, where the waters of the Nandhaur were utilised. In Bhábar Chhakháta, however, on either side of the Gaula, was a "beautiful line of clearings irrigated by their several *gúls* from that river, and displaying in the spring season a rich sheet of rape and wheat cultivation reaching to about six miles from the hills on both banks, a small belt of jungle, however, remaining in the immediate vicinity of the river bed. This bed is very broad and stony, and during the cold and hot seasons is entirely dry at the fourth mile from its debouche into the plain. This phenomenon would not, I believe, cease to occur, even if the hill-mens' *gúls* had no existence, although the greater body of water then left in the upper bed might enable the stream to avoid absorption for a mile or two further, but certainly not more. Hence although a slight extension of the hill cultivation is prevented by the present wasteful system of separate *gúls*, no injury to any plains parganah arises from the appropriation of the Gaula waters at their head; the nearest plains village (in Rudrpur and Kilpuri) being 12 miles from the lowest possible point of surface flow, and 16 miles from the nearest spot at which (supposing such a water-course could retain its water through the thirsty forest) any canal could be taken off for the benefit of the lower country. These observations are equally applicable to the case of the Bhakra, Bhola, Dabka, and Karra rivers in Kota which on a smaller scale resemble the Gaula. They are less applicable to the case of the Dewa river in Chaubhainsi, because there, as before mentioned, the plains' villages approach those of the hill-men, but even there the engineer

would be a bold man who would undertake to carry the water down to the plains and would despise the risk of ruining the *Bhábar* cultivation and the hill revenue (such as it is) at the head, without increasing the prosperity of the country below. I need only refer to the correspondence on Bhábar irrigation as showing that the hill officers were expected to lay down certain principles for the future management of the head waters. Unless my facts above detailed in allusion to the Gaula river be utterly erroneous, the conclusion arrived at must be that it is henceforth idle to complain in general and loose terms of the monoply of water by the hill-men. If a body of plains-men, whether Thárus, Bhoksas, or Desis, exist or may henceforth spring into existence, who can beneficially occupy the upper tract *above the point of river absorption*, and by their superior means, skill, and industry cannot only add to the agricultural products of the Bhábar (by the introduction of sugarcane and cotton, for instance), but can also contrive to carry the cultivation to a considerable distance into the forest, then the hill-men should make room for them." * * "Further interference in the shape of a regular enforced plan of irrigation is not barred either by Mr. Traill's orders or the rights which have accrued, but such interference is rendered inexpedient by the fact that no measures of the kind alluded to would so extensively benefit the whole community as to justify the disturbance of present possessions. * * In Mr. Traill's time the *gúls* were divided into those running by day and those running by night. In the present settlement many difficulties were avoided by giving the first refusal of all waste to the headmen of the nearest adjacent villages and increasing the revenue of the latter in proportion ; thus, as it were, forcing the possessors of *gúls* to extend their cultivation in order to prevent the intrusion and probable trespass of new-comers. This plan also tends to prevent the numerous disputes which arise from the paths to the forest pasture : ground long used by the inhabitants of the older clearings being stopped by the new fields of strangers. The actual villages for which separate new leases have been issued are only eight in number, yielding a revenue of 168 rupees, while the new land, brought and likely to be brought into tillage, by means of old existing *gúls* and under the management of old existing landholders, bears a satisfactory proportion to the whole appropriated area."

From 1850 onwards the history of the Bhábar is the story of its management by Sir H. Ramsay, then Captain Ramsay, an account of which will be given as near as possible from the official reports. When Captain Ramsay joined his appointment the Bhábar was overrun by dakaits who were hunted out from the parganahs above Bareilly by Mr. Fleetwood Williams and Mr. Moberly, who fell a victim to jungle fever in the execution of his duties. In 1850, Mr. Thomason, then Lieutenant-Governor, placed the Bhábar in charge of Captain Ramsay with power to expend as much as he could realise in excess of the Government demand on its improvement. To assist him he received a permanent advance of Rs. 10,000, which he was enabled to pay back in a short time by the opening up of temporary irrigation channels, and more especially by taking the entire tract under direct management. The original land revenue continued to be paid into the Government treasury, and in a short time the return from this source alone greatly exceeded the revenue originally fixed, so that by the end of 1852-53 it had risen to nearly Rs. 20,000. All this surplus was invested in canals, and as fast as these were made new villages sprung up corresponding to the supply of water procurable. After the mutiny, Government was induced to allow Rája Shiuráj Singh to exchange the Chilkiya *ilákah* for a confiscated estate in Afzalgarh. This *ilákah* was assessed at Rs. 1,800, and subsequently a few villages were added from Káshipur and Bázpur, giving a total of all transfers of land assessed at Rs. 4,055 a year. The revenue from the Bhábar in 1850 was, as we have seen, Rs. 8,953, but of this sum Rs. 1,911 belonged to the Bhoksa villages of Moti Chakráyat which were turned into waste, and the cultivators carried down to Gadarpur by Major Jones in order that the water which they wasted might be taken to the Tarái, and the cow-sheds along its border, which had no cultivation but which were called villages, so that the people inhabiting them might not have to pay the land-tax. Deducting this amount from the Bhábar revenue the total demand was Rs. 7,042 plus Rs. 4,055 or Rs. 11,097 when Captain Ramsay came into possession in 1850-51; when he left it, in 1883-84, the demand was Rs. 1,80,000. No better commentary on his administration can be furnished than this single fact that the land

Sir Henry Ramsay.

revenue has increased sixteen times the amount at which it was fixed when he undertook the charge, *i.e.*, for every anna Government now gets a rupee, whilst the people themselves have been equally enriched and are now as contented and well-off a peasantry as is to be found in British India.

Statistics.

The following table shows the revenue demand for each year during Sir Henry Ramsay's administration, and with the statistics already given furnish a connected view of the fiscal administration of this interesting tract since the conquest:—

1845-46 *to* 1860-61.

Year.	Rs.	Year.	Rs.	Year.	Rs.	Year.	Rs	Year.	Rs.	Year.	Rs.
1845-46 ...	8,953	1852-53,	19,399	1854-55,	25,742	1856-57,	27,290	1858-59,	16,987	1860-61,	25,01
1851-52 ...	14,612	1853-54,	22,425	1855-56,	25,931	1857-58,	15,253	1859-60,	24,446	...	...

1861-62 *to* 1883-84.

Year.	Bhábar.	Chilkiya.	Total.	Year.	Bhábar.	Chilkiya.	Total.	Year.	Bhábar.	Chilkiya.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
1861-62 ...	37,535	5,587	43,122	1869-70	78,601	16,318	94,919	1877-78,	86,265	27,129	1,13,39
1862-63 ...	45,275	5,927	51,202	1870-71	79,922	17,433	97,356	1878-79,	91,760	31,407	1,23,16
1863-64 ...	43,116	7,979	51,095	1871-72	77,622	17,109	94,731	1879-80,	1,02,149	33,035	1,35 184
1864-65 ...	51,742	7,979	59,721	1872-73	74,514	17,928	92,442	1880-81,	1,01,813	34,497	1,36',310
1865-66 ...	40,743	8,969	50,712	1873-74	73,705	19,381	93,086	1881-82,	1,01,475	36,820	1,38,295
1866-67 ...	45,325	11,136	56,461	1874-75	76,646	20-612	97,258	1882-83,	1,05,382	37,123	1,39,505
1867-68 ...	48,341	13,343	61,684	1875-76	80,940	21,545	1,02,485	1883-84,	1,04,046	38,284	1,42,330
1868-69 ...	51,556	15,039	66,595	1876-77	83,342	24,675	1,08,017	...	...	...	...

Irrigation.

Irrigation is now systematically adopted and arranged for from the Dewa to the Kosi. All the lakes in the hills are embanked to serve as reservoirs, and all the principal courses (*rajbáhas*) are constructed on a plan to admit of the largest number of distributaries (*gúls*) with the least waste of water. Without irrigation the Bhábar cultivation could not exist. There are no water-rates. Every stream almost is used and the water is regulated by sluice-gates placed at the head of each *gúl*, and which are opened and shut on a fixed plan, according to the extent of cultivation and the nature of the crop so as prevent over-flooding and its attendant evils. At present nearly 130 miles of masonry channels exist under the charge of the officer administering the Bhábar. We agree with Sir Henry Ramsay that this system should always remain in charge of the Bhábar

officials, and should not be entrusted to the Irrigation Department. Substantial works now exist by which as much water as is required or all that the streams can give is taken off from every river between the Dewa and the Phíka. The Gaula system is now as before the most important, and within the range of its influence cultivation will extend as far as water can be conveyed. The land is unlimited and cultivators will always be forthcoming. There is a fair supply until February, when the ordinary volume has to be supplemented from the Bhím Tál and Sát Tál reservoirs. The great rains of 1880 scoured out the bed of the Gaula for several feet, so as to render it very difficult to carry water into the canals, but substantial weirs have since been built to avoid this difficulty in future. Much remains to be done in remodelling the distributaries. Every cubic foot of water per second saved from absorption in the shingly detritus represents Rs. 500 worth of cultivation. Many of the courses (*rájbahas*) should be made water-tight and new lines should be constructed, but each so as to be part of the system above them and of others below that may be required hereafter. By putting the courses a foot or more under the surface they can be increased when required, and the slope is so great that the water can easily be brought to the surface when required. To the east of the Gaula every village is supplied from a water-tight course, to the great economy of the distribution.

Failure in Tallades.

Sir Henry Ramsay has found, like Mr. Batten, that the people of Káli Kumaon are not of agricultural tastes, but prefer trading with Nepál and Pilibhít. His experience in trying to induce them to take up the Tallades Bhábar must be told in his own words :—

"I must confess to one failure in the Bhábar. Not that the work was a failure, but the object for which the canal was made never was gained. The Káli Kumaon people (above Barmdeo) are the only bad cultivators in the hills, and in cases of scarcity they used to go down to Pilibhít to purchase grain in May and June. A great many died from jungle fever. I was asked by a great many of the inhabitants of eastern Kumaon to make a canal at Barmdeo, so that the people of the hills above might cultivate as others did at Haldwáni or elsewhere : offers for one hundred villages were given, and I took a canal from the Sárda. After it

was completed and in working order these people would not cultivate, and the canal as far as Kumaon is concerned was useless. In 1878-79, a landslip from the top of the hill about two miles distant came down and filled up two of the lanterns. It also deposited débris to a great depth for some distance over the canal, but as it was at least 15 feet under ground the tube was in no way injured. This canal cost nearly 3 lakhs of rupees, paid for from Bhábar funds. The floods of 1880, which washed away two villages, filled up the lower part with sand, but with the exception of trifling damage the canal is as good as ever. It is arched over for nearly a mile and a half, has an admirable head-work, and might be utilized for Bilhari or Pilibhít. I suggested to Colonel Forbes that the Irrigation Department should take it over on the condition that if hereafter the hill people could be persuaded to cultivate, they should be supplied with water free of tax like the others."

Some account of the principles of management may now be given. Comparing the present with the past Sir H. Ramsay notices the rise of Haldwáni from a group of grass-huts to a substantially built town, with a population of over 4,000 souls. He writes:—"The climate in the Bhábar, thirty years ago, was decidedly bad. In February or March all returned to the hills as soon as their crop was secured. Now the climate so far as the cultivation extends allow a *kharíf* cultivation and the people stay down at all seasons without suffering. Most of them have also land in the hills, and they move up and down as their presence is required." In the Chorgaliya direction the climate is not so good and the cultivators not yet acclimatised, but there is excellent land in the hills bordering on it, and when this is fully occupied the overflow must seek the plains. As a rule, new villages are allowed to be held free of revenue for two years that the settlers may clear the jungle and build their huts. The third year four annas a *bigha* is charged, the following year six annas, and then eight annas. With the exception of a few villages the maximum rate is eight annas per *bigha* or three rupees per acre. The cultivators may grow what they like or leave the land fallow, the object being to induce them to cultivate the rain crops, and the idea that they had that free induced a great many to sow rice. Now it has become quite the rule,

Rents.

as the cultivators have found out what a paying crop good rice is. The most valuable crop in the Bhábar is rape where manure is procurable. The land is prepared in August and the crop is cut in February. *Ganára* (*Panicum miliaceum*) is at once sown which ripens in May. In 1884 there was a splendid rape crop and prices were very high. Those who had land under it realized Rs. 50 to Rs. 60 per acre, and had the *ganára* crop to supply them with food. The Bhábar produces very fine wheat and excellent sugar-cane. The latter became popular at one time, and a good many Bihea mills were purchased, but they could not be repaired when broken, and the people went back to rape and *ganára*. At present rape is carried away by Banjárás, who collect it at Tanda and other depôts. They sell to Moradabad or Bareilly traders, who again sell to men at Cawnpore and from thence the seed reaches Calcutta. All these middlemen make their profits, but the railway to Ránibág will change all this and bring producer and shipper together.

"The prosperity of the Bhábar cultivation depends on manure and irrigation. Manure means large herds of cattle which are kept on the village lands as long as possible, and after that they are penned on the outskirts of the village as long as they can find fodder. When the dry weather commences they are driven to the edge of the Tarái where the springs burst out and the grass spring up. Cattle that have paid their grazing-tax in the Bhábar do not pay again when they graze in the Tarái, and in the same way the Tarái cattle that have paid below graze free in the Bhábar. By an arrangement with the Tarái authorities the waste lands on either side of the boundary are kept for grazing. The Tarái Superintendent takes the water of the springs, and the waste land is considered pasture ground. In Chilkiya, cultivation ought not to be allowed lower down than the village of Ampokhra on the Jaspur road or below the present cultivation on the east of the Káshipur (old) road. The country below that is unfit for hill cultivators as water is found very close to the surface.

Manure.

"The Bhábar has sufficient pasture land and does not require any management on the part of the Forest Department. In fact it would be impossible to close any part of it. As cultivation increases the cattle will have to go further, but however cultivation

may extend, it is limited by irrigation, the jungle will be sufficient. These district jungles contain no trees of value, as what *haldu* there was in the Haldwáni jungles has been cut by the railway, and the few trees that have been reserved will be required for the villagers. This jungle which is grazing-ground must remain under the officer in charge of the Bhábar, and the Forest Department should have nothing to do with its management."

Tenures.

In the villages which existed in 1850 there are proprietors as elsewhere in the hills, but in all others the tenure is heritable, but not transferable. This prevents gamblers ruining a village by throwing it into the hands of the local usurers. A son is not left a pauper by his father's extravagance, nor is the latter permitted to pledge for his indulgences more than the usufruct. This system works admirably. Troublesome strangers cannot thrust themselves on a brotherhood, and if they come must come as cultivators and intend to remain. In this way the usurer's trade is gone. In Chilkiya, where cultivators from the plains are more common, a tendency is observed on the part of the *sirgiroh* or *padhán* to oust the hill-men, because they can screw more out of a poor man from the plains than out of an independent hill-man. This practice has to be checked else some day the village will be deserted. In his last report, from which I have quoted largely above, Sir H. Ramsay writes:—"In closing my remarks I will only add that the Bhábar has a great prospect of prosperity. The judicious expenditure of Rs. 50,000 at least yearly ought to extend cultivation steadily. The railway must raise the price of rape and other products. Fifteen years hence the Bhábar will probably yield as much as the whole of the land-revenue of Kumaon and Garhwál put together."

Bhadráj, a hill in Patti Koklyál Thok of parganah Jaunpur in Tíhri, lies close to and at the west of Mussoorie forming one of the highest peaks of the range bounding the Dún on the north. The western ridge is prolonged to the left bank of the Jumna, a short distance above its confluence with the Tons. On the eastern prolongation the settlement of Mussoorie is built. There is here a station of the Great Trigonometrical Survey in latitude 30°-28′-46″ and longitude 77°-59′-57,″ at an elevation of 7,318 feet above

the level of the sea. Close by is a temple sacred to Balbhadra at an elevation of 7,304 feet.

Bhainskhet, a village, with a bungalow on the route to Garhwál from Almora in latitude 29°-42′-0″ and longitude 79°-35′-30,″ is situate in patti Mallá Tíkhún and parganah Bárahmandal of the Kumaon district. It is distant 14 miles from Almora and 13 miles from Dwárahát, the next stage, and has a Baniya's shop and a bungalow for travellers, without a table attendant or requisites. * The route from Almora lies down the north-western slope of the Simtola hill around the outlying spurs of Kalmattiya (6,414 feet) to Háwalbág, where the Kosi is crossed by an iron suspension bridge, about five miles from Almora. Thence the road passes opposite Katármal with its old temple to the Sun and turns west and passing south of the Nágchúla peak 4,457 feet), and thence to the north-west up the valley on the left bank of the Náná Kosi stream with the peaks of Shúra (5,205), Deo Káli (5,067), and Pindar Kot (5,276) on the same side. These with the Nágchúla peak form the outlying spurs of the range culminating in the Pakhán (6,016) and Airideo (6,924) peaks which forms the water-shed between the Kosi and the Náná or Chota Kosi. On the right bank of the latter stream from where the road touches its banks stretches the Pánsú range, attaining an elevation of over 6,000 feet. Near the head of the valley the road bifurcates; that going up the face of the Ryúni hill leading to Ránikhet, while the Bhainskhet road continues up the valley to the traveller's bungalow which lies in a fertile tract, west-south-west of Pindarkot, and has roads connecting it direct with Someswar to the north-east and Ránikhet to the west. On the whole the road is at a low elevation and bare of trees and shade and consequently hot. A path along the range to the right keeps along the side of the ridge and is to be preferred where time is not a matter of importance. About half way along the valley road are three small temples with the curious Turki's cap ornaments at the tops supposed to have been constructed by the Katyúra Rájas about 700 years ago. Similar buildings about ten feet high are found all over the province, and three almost exactly like these, at Tákula on the road to Bágeswar.

Bhainsu, a village and halting-place on the route between Srínagar and Kedárnáth in Patti Talla Nágpur in Garhwál, is situate

some distance from the left bank of the Mandákini river in latitude 30°-19′-15″ and longitude 79°-1′-10″: distant one mile 6 furlongs 22 poles from Rudrprayág, 9 miles 6 furlongs 2 poles from Serabugr and 11 miles 5 furlongs 1 pole from Saur-Gajeli. The road hence to Saur-Gajeli passes on to the Tilbara bridge, level and thence slightly undulating to the Rámpur bridge 6 miles 26 poles from Bhainsu. Hence it crosses the Saurgadh by a 36 feet bridge and by Agastmuni and Nákot to Sauri, where there is an encampment in large fields, 5 miles 4 furlongs 15 poles. The entire road is slightly undulating and an easy march though hot during the summer months from its low elevation.

Bhairon-Ghâti in Tíhri on the road to Gangotri is situate in north latitude 31°-1′-50″ and east longitude 79°-56′-0″, at the confluence of the Jádh-Ganga or Jáhnavi with the Bhágirathi, at an elevation of 8,511 feet above the level of the sea. Hodgson describes it as "a most terrific and awful-looking place;" and describes the *sanga* or spur-bridge mentioned hereafter by Fraser and then existing in terms which justify his regarding the place as one of exceptional difficulty and danger. The *sanga* has now been replaced by a light iron-wire suspension bridge higher up over the Jádh-Ganga, erected by the forest officer, Mr. O'Callaghan. Even this is difficult enough for ordinary travellers, being 380 feet long and 400 feet above the surface of the torrent. It is only three feet wide, and has only a slight wire rope as a side railing. This triumph of amateur engineering stretches across a chasm whose walls are perfectly perpendicular, and has but just level space enough at each end for the piers and abutments. Many of the hill-men themselves have to be led across by others with stronger hands and nerves. Pilgrims to Gangotri and others accustomed to dizzy heights generally crawl across on their hands and knees, the swaying and spring of the light wire ropes suspending the foot-way, making the passage really a difficult one to any one. Mr. Hodgson states that he has never seen anything in the hills to be compared with the scenery around Bhairon-ghâti for horror and extravagance. Both the Jádh-Ganga and the Bhágirathi are here confined within high and perpendicular rocks of solid granite, and in the acute angle formed by the confluence a lofty massive rock projects downwards between the streams like an enormous

wedge. The Jádh-Ganga, the larger stream, is beautifully clear, with a bluish tinge, while the Bhágirathi is of a dingy hue. Hodgson compares this scene of terrific sublimity to "the appearance that the ruins of a Gothic cathedral might have to a spectator within them, supposing that thunderbolts or earthquakes had rifted its lofty and massy towers, spires, and buttresses; the parts left standing might then in miniature give an idea of the rocks of Bhaironghâti."

Fraser, too, describes it as a very singular and terrible place.

Fraser.

The course of the river has continued foaming through its narrow rocky bed, and the hills approach their heads as though they would meet at a prodigious height above. "Here both rivers run in chasms, the depth, narrowness, and rugged wildness of which it is impossible to describe; between them is thrust a lofty crag, like a wedge, equal in height and savage aspect to those that on either side tower above the torrents. The extreme precipitousness of all these, and the roughness of their faces, with wood which grows near the river side, obstructs the view, and prevents the eye from comprehending the whole at a glance; but still the distant black cliffs, topped with lofty peaks of snow, are discovered, shutting up the view in either of the three ravines. Just at the bottom of the deep and dangerous descent, and, immediately above the junction of these two torrents, a wooden bridge (*sanga*) is thrown across the Bhágirathi from one rock to the other, many feet above the stream; and it is not till we reach this point that the extraordinary nature of the place, and particularly of the bed of the river, is fully comprehended; and there we see the stream in a state of dirty foam, twisting violently, and with mighty noise, through the curiously hollowed trough of solid granite, cutting it into the strangest shapes, and leaping in fearful waves over every obstracle. From hence the gigantic features of the mountains may frequently be seen, overhanging the deep black glen; their brown splintered crags hardly differing in colour from the blasted pines which start from their fissures and crevices, or even from the dark foliage of those which yet live.

"Just at the end of the bridge there is an overhanging rock, under which worship is performed to Bhairon and a black stone, partly painted red, is the image of the god. From hence the rock is ascended, at the foot of which the bridge is situated, by a path

more curious, dangerous, and difficult than any yet passed. As the rock is too steep and perpendicular to afford a natural path, the chief part is artificially constructed of large beams of wood, driven into the fissures, on which other beams and large stones are placed, thus forming a hanging flight of steps over the fearful gulf below; and as this sometimes has suffered from age and weather, while the facilities for attaching it to the rock are rather scanty, or altogether wanting, it is frequently so far from being sufficient that it strikes dread into any one not much accustomed to this mode of ascent. Sometimes it is even required to make a leap to reach the next sure footing, with the precipice yawning below; and, at others, with merely the support afforded by a slight projecting ledge, and the help of bambus hung from some root above, to cling to the rock, and make a hazardous passage. By this unpleasant path a step or level spot is reached on the first stage of the mountain, where, in a thick grove of fir-trees, is placed a small temple to Bhairon, a plain white building, built by order of Amr Singh, Gorkháli, who gave a sum of money to repair the road, and erect places of worship here and at Gangotri."

Bhatwára, an encamping ground on the route between Kainúr and Rámnagar, is situated in patti Khátali of parganah Malla Salán in Garhwál in latitude 29°-4′-0″ and longitude 79°-5′-0″, distant 9 miles 7 furlongs 28 poles from Baijirau, and 11 miles 6 furlongs 30 poles from Khireri-khál. The road from Bhatwára to the latter place ascends for 1 mile 6 furlongs 30 poles, to where the road to Dharon branches off; thence across the Dípa-khál into patti Gujara by Kúchár to Sangliya-khál, 3 miles 1 furlong 4 poles. Hence the road proceeds along the ridge separating the Deghát from the Hingwa river, both tributaries of the Rámganga, by Tidáli-khál to Khineri-khál, 6 miles 6 furlongs 33 poles.

Bhikal Tál, a small lake of about two acres in extent on the top of the ridge coming down from the Riguri-gudari range to the river Pindar and eight miles above the village of Phaldiya in patti Pindarpár of parganah Badhán in British Garhwál. The lake is surrounded on all sides by dense tree and *ningál* (hill-bambu) jungle, and during the winter it gets so little of the sun that ice forms sufficiently thick to bear skating on it. The height of the lake is a little over 9,000 feet. It is not deep and has a soft muddy

bottom, composed chiefly of decayed vegetable matter washed into it during the rains.

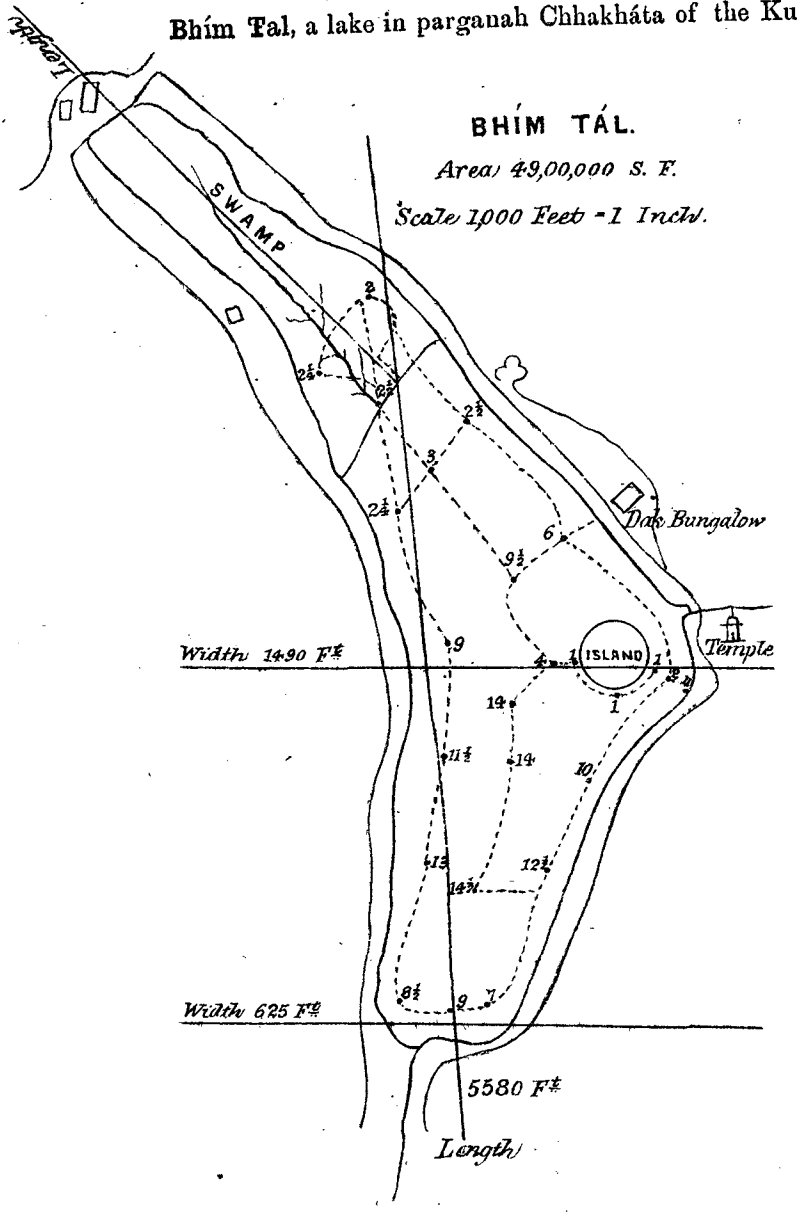
Bherang, a patti of parganah Gangoli in Kumaun, separated from Patti Bel at the recent settlement, is bounded on the north by Baráun ; on the west and south by Bel ; on the east by the Rámganga which separates it from Seti Talla. It lies to the north of the Almora and Pithoragarh road between Gangoli-Hát bungalow and the Rámganga. The principal villages are Birguli, Chitgul, Tihal, Páli, and Pokhri. The assessable area comprises 1,101 bísis, of which 593 are culturable and 508 are cultivated (293 irrigated). The land-tax yielded Rs. 117 in 1815, Rs. 205 in 1820, and Rs. 266 in 1843. The assessment is now Rs. 831 which falls on the total assessable area at Re. 0-12-1 per acre, and on the cultivation at Re. 1-10-2 per acre. Revenue-free grants amount to 40 *bisis*. The population at the time of settlement numbered 1,493 souls of whom 793 were males. There is a school at Chaupata and the patwári usually resides in Gangoli-Hát.

Bhikiya (or Bhikiya-ki-sain), a village in patti Walla Nayán and parganah Páli Pachhaon of Kumaon, is situate in latitude 29°-42′-8″ and longitude 79°-18′-20″ at the confluence of the Gagás and Rámganga on the left bank of the latter stream, 22 miles from Almora. The road from Rámnagar to Tarái passes through the village where there is a dispensary kept up from the *sadábart* funds of Badrináth and Kedárnáth. Close by is the old temple of Naules-war, which has more than a local celebrity among those situated at the smaller *prayágas* or junction of streams.

Bhilang (or Bhilangna), a stream rising near the Srikánta peak in Tihri in latitude 30°-46′-30″ and longitude 79°-1′-30,″ takes a south-westerly course through the Bhilang patti for about 50 miles and eventually falls into the Bhágirathi river on the left bank opposite Tihri, in latitude 30°-23′-20″ and longitude 78°-31′-0″ at an elevation of 2,278 feet above the level of the sea. In May at about five miles above the confluence Raper found it between 60 and 70 feet wide. Moorcroft notices the quantity of fish in it taken by spearing. Herbert estimates the length from the source of the Bhilang along the Bhágirathi and Ganges to Hardwár at 150 miles, but 120 miles would be more correct. The Bhilang is one of the sacred

streams and gives its name to a '*kshetra*' or tract in the Kedára-khanda of the Skanda Purána.

Bhím Tal, a lake in parganah Chhakháta of the Kumaon district, is distant 12 miles from Naini Tál by Bhomáli on the Rámgár road, whence the path turns off to the east down the Bhím valley, at an elevation of about 4,500 feet above the level of the sea. The view of the lake at sun-rise from the traveller's rest-house is one of the finest scenes of the lake-district. From measurements



From a Photograph by Messrs. Bourne & Shepherd.

Photo-Collotype, Survey of India Offices, Calcutta, May 1885.

BHÍM TÁL.

taken by Dr. Amesbury in 1871 the lake is 5,580 feet in length, including the swamp to the north-west: 1,490 feet in width at the widest place, and 625 feet at the narrowest. Its greatest depth is 87 feet and least depth towards the middle 18 feet. The superficial area amounts to 4,900,000 superficial feet. The outlet exists at a natural gap on the north-east close to the temple which has been raised by an artificial embankment[1] about thirty feet to utilise the reservoir so formed for irrigation purposes in the Bhábar during the cold weather. A current sets in for the outlet that is perceptible all over the surface of the lake, and is due to the volume of water carried off especially during the rains. Fish from one to twelve and occasionally twenty pounds in weight are found and afford tolerable sport for both rod and line. The color of the water is bluish-green and very clear, though the lake appears to be subject to the same terrestrial disturbances as Naini Tál. It has, however, the advantage of not being polluted by the surface drainage from inhabited sites, and is in every respect fit for drinking purposes. There is an island close to the north-east side about one hundred yards from the shore with which it is connected during the dry season by a bed of rock and shale. It is about thirty feet high and sixty to seventy feet in diameter.

The hills on the western side of the lake are considerably higher than on the east, and are of such formation that it is highly improbable that the lake can ever dry up. The entire bottom of the lake is comparatively even, and is composed of rock shale and pulverised silicates. Near the swamp end true peat is found which burns fairly when dried. The traveller's bungalow lies in latitude 9°-20′-40″ and longitude 79°-36′-16,″ close to an old temple erected by Báz Bahádur Chand, Rája of Kumaon, in the seventeenth century. This temple is a fair example of the ecclesiastical architecture common throughout the hills, and has a wooden canopy (*chhatri*) on the top erected here as an ornament and in some places it is said to preserve the building from rain. There is a dharmsála or rest-house for native travellers to the Bhábar, a school, and a dispensary supported by the Bhábar funds. The valley of Bhím Tál presents one of the largest sheets of cultivation to be found in the hills. Between it and Sát Tál is a flourishing tea-plantation once

[1] Was recently swept away, but has since been repaired.

the property of Government. Nau-Kuchiya Tál lies three miles to the east, Malwa Tál nine miles to the north-east, and Sát Tál three miles to the west, all of which will well repay a visit.

The route from Ránibag (*q.v.*) lies up the valley of the Barakheri stream which carries of the surplus water of the lake into the Gaula river. The Gorkhális had a fort here, on one of the hills to the south of the lake, known as Chhakháta garhi. According to Mr. Ball the northern range above the lake is largely made up of greenstone, which is traceable from Bhowali to Malwa Tál in one direction, and to Bujún on the Kosi in another. The hill, at the entrance to the lake which deflects the in-flowing stream, appears to be a serious obstacle in the way of the theory of a glacial origin for the lake. Mr. Ball thinks that originally the outlet was at the southern end of the lake which appears to be now stopped by the débris of a landslip, and which the natives say will some day give way and swallow up Barakheri. Towards the southern end of the lake, on the eastern side, there is a boulder deposit which extends along the bank up to a level of perhaps ten feet above the water. The rounded blocks which it includes were possibly rounded by the waters of the lake when they stood at a higher level, but its appearance suggests a moraine origin. The most remarkable feature about it, however, is that it is backed by no high range on the east, so that, if derived from a landslip, the materials must have come from the west, and, of necessity, temporarily filled up a portion of the bed of the lake. Hence to Malwa Tál a somewhat rough path gradually ascends an arid quartz mountain of which the last part for about three miles consists of a hard syenitic greenstone. The brow above Mahragaon, known as the Ekwai Bináyak, slopes south in a richly cultivated talus to Naukuchiya Tál, in part consisting of a green and slate-coloured clay called *kumet*, used in washing walls, &c. Fully two thousand feet below the Ekwai pass flows the Gaula in its narrow and beautiful ravine ; beyond this rises a lofty oak-covered spur of the Gagar, with peaks like Deothal (7,957 feet), and others over 7,000 feet in height.

From Bhim Tál a path proceeds direct by Mahragaon to the Gágar pass and Rámgár travellers' bungalow, twelve miles. This

path joins the road from Bhomali to the Gágar pass on the ridge separating the affluents of the Gaula flowing into Malwa Tál from the Ninglád, an affluent of the Kosi near Khairna. The Gágar peak to the east of the pass has an elevation of 7,855 feet above the level of the sea. The mountain is densely wooded with andromeda, rhododendron, benthamia, viburnum, quercus incana, and dilatata and pine. From the pass there is a fine view of the snows from Badrináth to Panchachúla, and in the foreground are Binsar, Bhadkot, Dunagiri, Siyáhi Devi, and the long blue or in winter white Dudukatoli range which fills the western horizon. A somewhat steep descent leads by a good road and well wooded to the Rámgár (*q.v.*) traveller's bungalow to which water is conveyed in a series of wooden troughs from the pass. From below Jaripáni to the west of the pass and on the north side for 2,200 feet down in the Rámgár valley, the Gágar ridge is composed of syenitic greenstone, with occasional beds of clay and chlorite slate. The greenstone extends eastwards to the foot of Sát-chuliya and westward along the ridge traversed by the road to Bhomali, the flanks exhibiting the greenstone much decomposed into rhomboidal fragments finally merging, as at Sát-chuliya, into the quartzose rocks of Luriyakanta.

To Rámgár.

Bhotiya Mahals[1] or fiscal sub-divisions of the tract called Bhot comprise the inter-Alpine valleys of the snowy range bordering on Tibet Byáns, Chaudáns and Dárma on the east, Juhár in the middle, and Painkhanda on the west. These valleys are the main lines of drainage, and along them lie the tracks by which alone Hundes can be reached. '*Bhot*' or more correctly '*Bod*' is really the same word as '*Tibet*.' In the records of the Tátar Liaos in the eleventh century the name is written T'u-Pot'é, in which the latter syllable represents Bod. The Chinese character for '*po*' has also the sound '*fan*,' and with the addition of '*si*' or 'western'; the portion of Tibet to the north of Kumaon is called 'Si-fan' and the

[1] The materials for this notice are an article 'On the Himalaya in Kumaon and Garhwál' by Sir John Strachey, in Cal. Rev., 1853: 'Traill's Statistical Account of the Bhot Mahals': As. Res. XVI. (1828): Batten's 'Report on the District of Kumaon:' Set. Rep. II., 559: Beckett's Reports on the Settlement of Kumaon and Garhwál: Journals of Capt. H. Strachey, Weller, Manson, Batten, and others in J. A. S. Ben.: information furnished by the District Officers, Colonel Garstin, Colonel Fisher, and Major Reade, and personal observation and inquiry.

people 'Tu-pote'.[1] The Huniyas of Nári call themselves Náripás and call the Bhotiyas of our hills Monpas. The Khasiya population call the tract inhabited by the Bhotiyas of our hills Bhot, and Tibet itself Hundes, and their own country is known as Khasdes. The people of Tibet give the name Palbo to Nepál, Kyunam to Kumaon, Galdiya to Garhwál, and Chongsa to the Nilang valley. For these reasons, as remarked by Sir J. Strachey, the limits of Bhot in these districts cannot be very strictly defined, for the term is an ethnographical rather than a geographical expression, and signifies rather the tract inhabited by the Bhotiyas which, too, has varied for time to time, than a country of which any positive boundaries can be named. To the north alone can its boundaries be easily defined, and there it is throughout Kumaon and Garhwál one with the line of water-parting between India and Hundes. To the south any boundary that can be named must necessarily be artificial; but it will give a fairly correct idea of the general limits of the Bhotiya tract if we consider it to be bounded by a line passing through or perhaps a little to the north of the great peaks of the Himálaya. In Kumaon the line of demarcation is somewhat clearly defined, but in Garhwál, to the west of Trisúl, the line of perpetual snow recedes some twenty miles north, and the Bhotiya boundary follows it.

Valleys.

The only parts of Bhot which are inhabitable and capable of cultivation are the narrow valleys lying between the great peaks which run down to the south from the water-parting of the chain, and in which flow the tributaries of the Ganges on the west and the Káli on the east. By far the greater part of the tract consists of one great mass of barren rock or of beds of snow with forests of fir, spruce, yew, cedar, box, cypress, and similar alpine trees at low elevations. Though Bhot occupies more than one-third of Kumaon and Garhwál, not more than one-sixteenth of its area is cultivated or cultivable. The villages are all situate north of the points where the rivers cross the line of the great peaks at an elevation above the sea varying from seven to over twelve thousand feet. At the heads of the valleys through which the great rivers or their tributaries flow lie the passes by which the Bhotiyas travel to exchange the products of India and England at the Tibetan markets. The

[1] For the etymology of the name see Gaz., XI., 45.

roads[1] to these passes follow as far as possible the course of the streams, and except where high spurs interrupt the regularity of the drainage and increase the number of the ridges that must be passed, they gradually ascend the watershed of the chain and cross immediately into Tibet. "It would be difficult[2] to exaggerate the badness of the tracks across these passes, for there is nothing to deserve the name of road or even of path, and travelling amongst masses of loose and tumbling stones or over beds of snow and glaciers, and at an elevation where even a slight exertion is painful, is very difficult to people on foot who are not accustomed to such journeys. Toil and discomfort, however, form the principal and, indeed, only difficulties to be encountered, and of the former but little need fall on a traveller seated on the back of a *jubu*, the only way in which it is possible, except on foot, to cross the passes of these mountains with safety. Of danger there is little and the stories[3] of the terrific perils that have to be passed through in crossing these passes are entirely fictitious. Accidents from storm and rain occasionally occur, but these would equally happen in any part of the province under similar circumstances, and may be avoided by taking care not to undertake the journey too early or too late in the year. The discomfort, however, that must be gone through can hardly be exaggerated, and no European who has ever experienced the horrors of a Tibetan climate, who knows the wretchedness of a barometric pressure of fifteen or sixteen inches and has convinced himself how little of the sublime and beautiful these elevated regions can show him, will willingly cross these passes a second time unless impelled by objects of scientific research or some other powerful inducement."

Passes.

There are five principal valleys along which the roads run, and commencing from the west these comprise the valley of the Sáraswati, the western branch of the Alaknanda in parganah Painkhanda, along which

[1] Traill's report. [2] Cal. Rev., No. 35, page 25. [3] These have had their origin either in the distorted impressions of the weak-minded traveller or are due to the bodily suffering which the rarefaction of the air undoubtedly causes. There is hardly more danger in crossing the worst of the Himálayan passes mounted on a *jubu* than in riding to the top of Snowdon or the Righi. That is, after the winter snow has melted, and when the weather is favourable, the times usually chosen by the Bhotiyas themselves.

runs the road to the Mána pass; the western Dhauli or eastern branch of the Alaknanda, up which runs the roads by the Níti and Chor-hoti passes; the Gori in parganah Juhár leading by Milam to the Unta-dhúra and Balchha passes; the Dhauli in Dárma by which the Neo-dhúra and Kachh passes are reached, and the Kuthi-Yánkti or head-waters of the Káli in Byáns leading to the passes known as Lunpiya-lekh, Mankshang-lekh, and Lípú-lekh. The elevation of the Mána pass above the level of the sea is 17,890 feet; of the Níti is 16,628; of the Unta-dhúra is 17,590; of the Lunpiya-lekh is 18,150, and of the Lípú-lekh is 16,780 feet. The mountain chains separating these valleys are in themselves formidable, and in many cases the passes over them are more difficult and dangerous than those leading into Tibet: such are the Lebun-dhúra and Jhuling-Yánkti leading from the valley of the Kuthi-Yánkti to the valley of the Dhauli and having an elevation of 18,900 feet; the Phula-Yánkti pass to the north of the Pancha-chuli group leading from Márcha in Dárma to Rálam in the valley of the torrent of the same name and thence by the Barjikang-dhúra (15,400 feet) to Mápa in the Gori valley; the Gyue-dhúra from Sela in Dárma to Kuthí in Byáns, and the Sobhula and Balchha routes to Munshiyári in Kumaon. A communication between Malári on the Níti route and Jainti on the Milam route exists by Girthi, but is so difficult and dangerous as seldom to be used. All the valleys, with the exception of that of the Gori, are completely open and passable towards the south.

Physical characters.

It is desirable to give some general account of the characteristics of the Bhotiya tract in addition to those already noticed before writing more particularly of the sub-divisions into which it is divided. It has already been stated that the great peaks of the Himálaya are almost always situate near the southern limit of the belt of perpetual snow on great transverse ranges which run down from the water-parting of the chain. Owing to this structure the climate and vegetation, the two most important influences as regards the inhabitants of the country, are entirely different in the Bhotiya tracts from those which we find at similar elevations further south. On the southern side of the great peaks the country is everywhere within the influ-

ence of the summer and the winter rains of India. We have a damp climate and a luxurious vegetation up to 12,000 feet above the sea, and the line of perpetual snow descends to a height of 15,500 feet above the level of the sea. When we pass to the north of the great peaks, the contrast is most striking.[1] Here we find a dry climate almost beyond the influence of the periodical rains; the magnificent vegetation has ceased, and as we proceed northwards the air and the soil become constantly drier and more arid. The fall of snow as well as of rain gradually diminishes, and as we approach the water-parting of the chain, the northern limit of perpetual snow, under the hostile influence of the climate, recedes to an elevation of between eighteen and nineteen thousand feet above the level of the sea. The scenery of this tract, especially in its more northern portion, is generally desolate and repelling in the extreme. True sublimity can hardly exist without beauty, and of the beautiful there is almost nothing in this dismal region. There is much to cause wonder and astonishment from its novelty, but little to afford delight. Surveying the country from the eminences which rise along the water-parting line a few thousand feet above the passes, we look over the elevated plains of Tibet stretching far away to the east and west and bounded on the north at a distance of some forty or fifty miles by another range of mountains running parallel to the great Himálaya. The scenery here is not without a certain savage grandeur, although the sublimity which we often find in the country to the south of the great peaks is totally wanting. The utter desolation which, when it lay close to us, was only hideous, is here softened down by distance, and the broad grassy plain cut through by stupendous ravines and bounded by the bare brown hills is strange and wonderful. But to the traveller who can look beyond mere external forms for the feelings which natural objects can inspire, this scene possesses a true and an extraordinary sublimity. He knows that the plain over which he looks is the bed of an ancient ocean, filled with the vestiges of the extinct creations of an ancient world, still preserving almost unchanged the level surface although by unknown forces it has been raised up sixteen thousand feet into the midst of the snows of the Himálaya.[2]

[1] R. Strachey: "On the snow-line in the Himálaya," *passim*.

[2] Cal. Review *l. c.*, p. 25 (Sir J. Strachey).

The Himálaya.

The line of water-parting itself attains an elevation of from sixteen to twenty thousand feet, while the Himálaya or groups of snowy peaks of greatest elevation lie to the south of it and are connected with it by lateral ridges. Strictly confining ourselves to the British possessions, we find on the extreme west the water-parting recedes as far north as latitude 31°-5′ at Mána, sending out a lateral chain to the south which terminates in the Kedárnáth and Badrináth groups in laditude 30°-47′ and 30°-44′. The boundary ridge then takes a bend to the south-east to Kamet in 30°-55′-13″, whence it sends out a second lateral chain of lofty peaks, the base of which extends as far as Joshimath. From Kamet the ridge recedes to the Níti pass in latitude 30°-57′-59″, from which there is a steady decline to the south-east as far as the Balchha pass, and thence nearly due south to the Lakhur-la beyond Unta-dhura in latitude 30°-33′. From this point the course bends slightly to the south-east to the Rálam range, and thence nearly due east by the Lunpiya-lekh in 30°-29′ to the north-east corner of the Byáns patti, where it turns suddenly south-south-east to the Lípu pass in 30°-10′-30″, the eastern boundary of British Bhot. To the east of the Níti pass a chain attaining a maximum elevation of about 20,000 feet is given off to the south-south-east separated by the Girthi valley from the Kyungár range running up north-north-west from the water-parting ridge and enclosing between them and the boundary ridge a less elevated tract (15,000 feet) drained by the Girthi river. Further east the Unta-dhura ridge (17,800 feet) runs due west, connecting the group of peaks at the head of the Milam glacier with the water-parting ridge. These again are prolonged to the west in the Dúnagiri peak overhanging the Dhauli valley, while a ridge running due south connects them with the great mass of peaks including Nanda Devi, Trisúl and Nanda Kot. The western peak of Trisúl lies in latitude 30°-18′-43″, and throws out a ridge to the west, connecting it with the Nandákini group. To the east of the Unta-dhura comes the ridge separating the valleys of the Rálam and the Gori rivers, and further east a chain between the Gori and the eastern Dhauli, culminating in the group of peaks known as the Pancha-chúli and extending as far as the Chhipula peak in Askot. Between Dárma and Byáns another chain culminates in Yirgnajang, which overlooks the

Káli river. Thus we have from the water-parting separating Bhot from Tibet a series of great lateral chains culminating at distances varying from twelve to forty-two minutes of latitude in groups of snowy peaks and having an elevation of from 4,000 to 6,000 feet above that water-parting. These chains have a direction for the most part from north to south, and between them flow the great rivers in the valleys of which lie the villages constituting the fiscal sub-divisions of Bhot. These rivers have already been mentioned in connection with the passes. The other great rivers having their source at the southern base of the snowy range all lie without the tract known as Bhot with which we are more immediately concerned here, such as the Nandákini, Pindar, Sarju, and Rámganga. The entire drainage of Painkhanda falls into the Alaknanda, the western branch of the Ganges, while that of Juhár and Byáns falls into the Káli known as the Sárda, where it debouches on the plains, and as the Ghághra or Ghoghra in its passage through Oudh to its junction with the Ganges to the south of the Ballia district in these Provinces. The heights of the principal peaks have already been given.[1] We may here notice the existence of hot springs throughout the Himálaya. The temperature is found nearly the same throughout from 130° to 138° Fahr. No volcano is known to exist and no traces of igneous action are visible, though the natives assert that something of the kind exists on the Nanda Devi peak, and bear unanimous testimony to the occasional appearance of smoke on its summit. This is attributed by them to the actual presence of the deity and has accordingly invested this peak with particular sanctity, but is more probably due to the snow being blown about by the wind. Altogether, though the Bhotiya Mahál form comparatively but a small portion of the great Himálaya, they yield to none in interest. In ruggedness of feature they are not surpassed by any inhabited tract, and such is the irregular and confused appearance which the endless ramifications of the mountains present that it is the line of river-valleys alone that enable us to find a clue to their arrangement, and it is precisely along these valleys that the Bhotiya villages lie.

[1] Vol. I., page 177. See also extracts from the records of the Trigonometrical Survey given in J. A. S. Ben, XXXI., 45, 46. Strachey gives for Kamet latitude 30°-55'-20", longitude-79-°37'-55" ; height 25,500 (G. T. S. 25,443).

Painkhanda.[1]—The parganah of Painkhanda in British Garhwál consists of two sub-divisions or pattis, the Malla or upper, and Talla or lower. Malla Painkhanda is bounded on the north by Tibet on the east by Tibet and Kumaon, on the west by the Tihri State, and on the south by Nagpur and Talla Painkhanda in Garhwál and Malla Juhár in Kumaon. Talla Painkhanda is separated from the Malla Patti on the north by a line drawn somewhat arbitrarily from the Dúnagiri peak through Samangwenta across the Dhauli river, and thence north-west up the torrent of that name to the southern extremity of the range separating the Dhauli from the Sáraswati, and south-west again between Ghát and Vishnuprayág, whence it meets further west the Urgam boundary above Tháin. Malla Nágpur forms the western boundary and Kumaon the eastern boundary. The southern boundary, conterminous with the southern boundary of the Bhotiya tract as now recognised, consists of a line drawn from the western slope of Nanda Devi south-west to Trisúl, thence north-west along the northern slopes of the Nandák peaks, and along the water-parting line between the Biri-Ganga and the feeders of the Dhauli to Sálighát near Pána on the road between Rámni and Joshimath, whence it follows the Garur-Ganga to Pákhi, three and a half miles north of Pípalkoti on the left bank of the Alaknanda river.

Boundaries.

The natural divisions of Painkhanda are five—the valley of the Vishnuganga, the valley of the western Dhauli, the valley of the Girthi river, the valley of the Ríni, Ríndi or Rishiganga, as it is variously called, and the tract around Joshimath forming the winter quarters of the Bhotiyas. The valley of the Sáraswati is bounded on the west by the snowy chain separating it from the head-waters of the Jáhnavi, a feeder of the Bhágirathi, the western branch of the Ganges and ending in the south in the great mass of the Badrináth peaks, including Badrináth, Chaukhamba and Nálikánta. On the north is the ridge pierced by the Mána pass and on the east a chain of snowy peaks extending from near Joshimath to the northern ridge where it culminates in Kámet. The Sáraswati on

The Mána or Vishnuganga valley.

[1] The origin of the name is given in Gazetteer, XI., 784.

either side receives numerous torrents rising in the glaciers that line its course and bears the same name as far as Mána, where it is joined on the right bank by the Vishnuganga, having its source in three immense glaciers lying to the north of the Chaukhamba and Nálikánta peaks. Hence the united rivers are known as the Vishnuganga (or commonly Bishnuganga) to its junction with the Dhauli at Vishnuprayág, where it takes the name of Alaknanda to its junction with the Bhágirathi at Deoprayág, when the united streams are henceforward known as the Ganges. The Vishnuganga being more sacred than the Sáraswati gives its name to the latter stream though it itself has a smaller volume and a shorter course, and frequently the name Alaknanda is given to both, above and below their junction, to Vishnuprayág, where they join the Dhauli; and from their sacred character are looked upon as the superior stream, though inferior in length and volume to the Dhauli. To avoid confusion we shall always speak of the united Sáraswati and Vishnuganga as the Vishnuganga. A full description of the valley will be found under MÁNA The road to Hundes lies through the valley of the Sáraswati and generally on the left bank of the river. The last and principal village is Mána immediately above the junction with the Vishnuganga on the left bank, and about two miles further south on the opposite side of the united stream stands the temple of Badrináth. Laden sheep and goats ordinarily cross the pass in five to six days from Mána, but unencumbered travellers and cattle can accomplish the distance, which probably does not exceed thirty miles, in three or four days.[1] A species of buck-wheat (*Fagopyrum tataricum*, Gærtn., is cultivated between Mána and Badrináth, and but very little of any other grain, for like all the other Bhotiyas the people of Mána take no great trouble with their fields.

The Níti valley.

The Níti valley, as the valley of the western Dhauli is popularly called, is bounded on the west by the range already mentioned as dividing it from the Mána valley; on the north by a continuation of the water-parting ridge separating the Himálaya from the table-land of Tibet, pierced by the Níti, Tunzum-la or Chor-hoti and the Shelshel passes; on

[1] The marches for sheep are Musápáni, Gástoli, Chamiráo, Tárúi or Tára and Poti.

the east a spur of snowy peaks runs south-south-east nearly at right angles to the dividing ridge and separated by the valley of the Girthi river from the Kyungár range to the north of parganah Juhár running north-north-west from the dividing range which here takes a sudden bend to the south before continuing its direction due west to east. On the right bank, the Dhauli receives several glacier streams, including the Ganeshganga, Raikhanda, Gamsáli, and Kosa. On the left bank, the most important are the Girthi river, which joints it near Malárí, the Dúnagiri and Tolma streams and the Ríníganga, which it receives at Ríndí.

There are two routes by which the valley is reached from the south; one follows the left bank of the Alaknanda by Karnprayág, Hilang and Joshimath, the other crosses the country by Lohba, Náráyanbugr, Ghát, Rámni and Pána. The first is that most generally followed. From Hilang the first march leads to Tapuban (13 m. 3 f. 2 p.): passing by Joshimath (4 m. 1 f. 5 p.); thence to the Raigaon and Kuncha rivulets tolerably level (2 m. 2 f. 16 p.); next, slightly undulating, the road crosses the Chaurmíng and Dhánk rivulets (3 m. 2 f. 14 p.) and reaches the encamping ground at Tapuban in a large flat bend of the Dhauli. Hence to Samangwenta or Suraitota (10 m. 5 f. 32 p.) by the Umyáni and Kanu rivulets (2 m. 6 f. 39 p.), beyond which the old road is merely a sheep track, very rocky, steep, and bad; but the new road is excellent and passable for horses. The Ríní river is here crossed by a bridge and the Tolma stream by a *sánga* to Samangwenta (7 m. 6 f. 33 p.) at an elevation of 7,300 feet above the sea level. The next stage is Jhelum above the Garpak stream (10 m. 2 f. 24 p.) The road here first crosses the Dhauli by the Dúmsánga bridge and thence over the Wada-gath and Gádi rivulets, recrosses the Dhauli at Gádisánga and again crosses at Chúnch (3 m. 5 f. 17 p.) From Chúnch the road keeps to the same bank as far as Mailsánga (3 m. 3 f. 15 p.), where it crosses to Khaula, the fifth bridge, whence an ascent leads to Jhelum (2 m. 6 f. 31 p.) From Jhelum (9,301 feet) to Pangti and Bhábkúnd, where the Dhauli is again crossed (2 m. 4 f.), the road passes over the Bhújgara and Malári rivulets to Malári (3 m. 2 f. 29 p.) at an elevation of 10,014 feet. Hence it again crosses by the Búrans-sánga near Kúrkúti (1 m. 4 f. 3 p.), and

passes along the right bank to Pharkiya (5 m. 6 f. 14 p.) From Pharkiya the Dúmphu bridge below Bámpa (1 m. 5 f. 12 p.) and Gamsáli (1 f. 2 p.) are reached. Beyond Gamsáli the Dhauli is crossed by the Búltág bridge to the Jhánti-gath (1 m. 6 f. 3 p.) where the route by Chor-hoti and also by Márchák to the Shelshel pass branches off. The main road passes up the left bank of the Dhauli to Níti, the last village in the valley (11,600 feet). Thence the encamping grounds are Kharbasiya (13,655 feet), three marches from Jhelum, and Kyúnlung (14,708 feet), from which it is only one march across the pass to the Hundes side

From Jhánti-gath by the Chor-hoti pass the first encamping ground is Húniyakhark (13,500 feet), and thence by Chor-hoti (18,300 feet) to Rímkím (14,250 feet); again a route passes through the Málchák pass (18,600) feet to Hoti (15,000) beyond Rímkím, and from these places it is only one march across the Tun-zum-la or Ting-jung-la (16,350 feet) and Shelshel (16,390 feet) passes into Tibet. As far northwards as Níti the valley is cultivable and inhabited from June until October; but in no village is there more than one harvest, consisting of barley, buck-wheat, *pháphar*, and turnips, and sometimes these are not gathered owing to premature falls of snow in October. The villages of Malári and Gamsáli especially raise large quantities of grain. The Bhotiyas of Níti though not so wealthy as those of Juhár are still, however, better off than their brethren of Mána and are prosperous in their way. "The capabilities of a real Bhotiya village," writes Traill, "may be estimated as great or small in nearly exact proportion to its vicinity to or distance from the snow; in other words, its prosperity corresponds to the rigor of the climate, the barrenness of the soil, and the impracticability of cultivation; for the more daringly these latter evils are encountered, that is, the nearer the village is to the Tibetan frontier the greater are its trading advantages." (See MALÁRI, GAMSÁLI.)

Girthi river valley.

The uninhabited tract lying along the left bank of the Girthi river, and its tributaries to the north of the Unta-dhúra ridge, the northern boundary of Malla Juhár in Kumaon, forms the third natural sub-division of Painkhanda, to which it was transferred in 1864. This elevated region

is divided into two parts by the Kyungár range running north-west from the dividing ridge, and crossed near Jainti (13,600 feet) at a *ghát* having an elevation of 17,700 feet on the route between the Untadhúra and Balchha passes. The stages beyond the ghát are Kyungár (17,000 feet), Laptel or Laphkhel (13,990 feet), and Sangcha (14,110 feet), whence it is one day's march across the Balchha pass. From Laphkhel a rough and difficult road leads by Tsojan (15,750 feet) to the Shelshel pass into Shák of Tibet. The south-western corner of this tract is occupied by a group of snowy peaks, to the east of which lies the immense glacier forming the source of the western branch of the Gori river.

The Ríníganga.

The chasms through which the Ríníganga or Rishiganga, and the glacier streams which form its tributaries, flow, are situate amid perhaps the most savage and desolate tract in the Himálaya consisting of one mass of, for the most part, bare snow-covered rock, broken into mighty precipices by the numerous streams that pour down from the western sides of Nanda Devi on the east, the northern face of Trisúl and the Nandák groups on the south, and the southern slopes of Dúnagiri on the north. All these mountains are over 22,000 feet high, and Nanda Devi exceeds 25,000 feet. The bed of the river has never been explored for more than six miles from its confluence with the Dhauli, where it comes down more like a waterfall, while the cliffs on either side rise almost perpendicularly to a height of in some places of 5,000 to 6,000 feet. The entire tract as may be supposed is devoid of villages, and only in a few places during the rainy months is used as a pasture-ground for cattle and sheep.

Fifth tract.

The fifth tract comprises the villages around Joshimath which are situate in comparatively open valleys and gently sloping hills fairly wooded with *chír* (Pinus longifolia). Joshimath itself attains to the dignity of a town in the hills owing to the circumstance of its being the winter residence of the Badrináth establishment and of the Bhotiyas from Mána and Níti, whom the rigor of the season compels to migrate to milder regions, and who are the chief purchasers of the grain grown by the villagers, and of the carrier-sheep bred by them among the magnificent pasture-grounds of the ranges which crown their

villages, and stretch upwards to the roots of the snowy peaks. Some of the villages in this neighbourhood are so situated as to afford to their owners great facilities as hunters, and formerly the people derived a good profit from the sale of hawks which they captured in their eyries, and of musk pods extracted from the musk deer which they hunted down by their dogs. *Báz-bína* (hawk's-musk) was a regular item of revenue taken in kind under the native Governments. The musk-deer is now, however, nearly exterminated and hawks are little sought after. Talla Painkhanda is the tract which the late Mr. Moorcroft talked of renting from Government, for the purpose of establishing himself in the best position for profiting by the trade in shawl wool after his return from Tibet.

Juhár, or *Jwár*.—The parganah of Juhár in Bhot of Kumaun up to the recent settlement in 1872 was divided into the Malla and Talla pattis or upper and lower Juhár. Since then the Talla patti has been divided into pattis Goriphát and Talládes. The Malla patti is bounded on the west by Painkhanda Talla, and on the north by Painkhanda Malla of Garhwál, on the east by Hundes and the lateral chain culminating in the Páncha-chúli group separating it from Dárma, and on the south by the Goriphát patti, from which it is separated by an irregular line drawn from the western slope of the Páncha-chúli group by Dhánsi to Palon on the left bank of the Gori river, and thence north-west to the source of the Bágdwár torrent. Goriphát is bounded on the north by this line; on the south by a line drawn from the western slope of the Chhipula peak nearly due west to the range separating it from Askot Malla of parganah Askot and the Díndíhát patti of Síra; on the east by Dárma Malla and Talla, and on the west by Talládes. The Talládes patti is bounded on the north by the southern slopes of the Nandakot Peak, on the west by Malla Dánpur, on the east by Goriphát, and on the south by patti Máli of parganah Síra. There are but fourteen[1] villages in the upper patti, all situate at elevations exceeding ten thousand feet to the north of the great snowy peaks, and between them and the line of water-parting which forms the boundary towards Tibet. The winter residences of the Bhotiyas are

[1] Bilju, Búrphu, Ganaghar, Khilauch, Laspa, Lwál, Mápa, Milam, Martoli, Rálam, Rilkot, Tola, and Súmdu.

chiefly in Goriphát, where the fine slope of the Kálamundi range as far as the Gori river is occupied by the villages of Súrhing, Gorpáta, Daráti, and Dárkot, which together form the tract known as Munshiyári, the principal trade depôt between the passes and Bágeswar. These villages, such as Tejam in Juhár and Lohathal in Gangoli, are remarkably good and contain some of the finest houses in the district. The Bhotiyas have succeeded in obtaining a large proprietary share in the villages, and even in other parts lower down in the patti, and the older Khasiya residents have in some measure become dependent on them for a livelihood. Except in a few of the more elevated villages lying close to the snowy peaks here, too, the people are able to collect two harvests from the soil in a year. Three local pattis, Barukueni, Barupeti, and Tallades, were included[1] in Talla Juhár by the former governments with a view to the establishment of the Bhotiyas during the winter months and still belong to it, and in 1821 were included with the Dárma parganah in the jurisdiction of the Juhár patwari, whose pay on this account was raised from five to eight rupees a month!

The ridge on which the Unta-dhúra pass into Húndes is situate forms the water-parting between the eastern branch of the Gori and the eastern tributaries of the Girthi in Malla Painkhanda of Garwál. These drain an elevated tract devoid of human habitations, and only used by Bhotiyas travelling to the Balchha and Shelshel passes into Hundes, and occasionally by the difficult route of the Girthi lead mines to Malári in the Níti valley. South of the Unta-dhúra pass rises the eastern branch of the Gori, whose head waters are principally fed from glaciers lying at each side of the Bhotiya road to that pass. The western branch rises in the great glacier lying to the north-west of Milam, and both unite below Milam to form the Gori. Glacier streams descend from Nanda Devi and the Laspa torrent from Nandakot and join the Gori on the right bank. On the left bank, the most considerable feeder is the Rálam river, which rushing between the Hansaling (18,100 feet) and Dhánsi (18,200 feet) peaks joins it below Bágdwár. The Gori thence continues on a south-south-easterly course until it falls into the Káli river near Askot. The route to the Juhár Patti lies up the valley of the

[1] To Board, 25th April, 1821 ; in Tallades they were first lessees and eventually became proprietors in places.

Sarju by Bágeswar, thence one road branches off from Kapkot by Ramári on the eastern Rámganga across the Kálamundi range to Súrhing and Lílam, while another branches off from Kháti in the Pindar valley, crossing the Sarju at Jhúni, and the Kálamundi range by the Rur-khán joins the other road near Súrhing.

Untá-dhúra Pass.

The Balchha Pass was visited from Untá-dhúra by Weller[1] in 1843, who records that he left the Untá-dhúra Pass at the end of May, and descended over snow-beds to the Lanka stream, which he crossed to the left with a course due north. Thence over a bad road to Topi-dúnga, a small level spot near the river which here joined by the Dol torrent turns to the west with a depth of about three feet and a width of about twenty feet. The Dol rises in a glacier on the western face of the Kingri-bingri range, and after its confluence with the Lanka joins the Torgár to form the Girthi river (*q. v.*). From Topi-dunga a steep ascent called the Kálamattiya-charhái, from its being covered with dark stones and a black crumbling slate, leads to the crest of the Kyungár-ghát, whence a limited view of the Tibetan table-land is obtained. Thence a descent leads to Chidámu halting place (13,520 feet), a small level spot on the right bank of a streám flowing north ; thence to a second halting-place called Laphkhel or Laptel (13,990 feet). About a mile below, the Chidámu stream is joined by the Kiogár from the north which makes its way through a cleft in the hill, the sides of which are many hundred feet in perpendicular height. Ammonites and belemnites are found in great numbers in this locality. Hence the path leads over a series of gentle undulations which extend for a considerable distance on either side. Then, crossing a stream at Sangcha (15,50 feet) the summit of the Balchha pass is reached on the fourth day from Unta-dhúra. See BALCHHA.

In all the passes, but especially in Juhár the tract between the village nearest to the pass and the pass itself is very rugged, difficult, and rocky in appearance, whilst the villages themselves are situate in comparatively open ground. Again the tract immediately below the inhabited part of the valley, or where the river breaks through or flanks the highest chain, and enters the region of forest

[1] J. A. S. Ben. 1843, p. 96.

vegetation, is characterized by scenery of the most beautiful, but stupendous character,—snow beds, precipices, and waterfalls, rendering the descent by the river side into the lower regions apparently impossible.

Dárma.—The parganah of Dárma has always been divided into three pattis, Dárma, Byáns, and Chaudáns. At the settlement in 1872 the Dárma Patti was further subdivided into the Malla and Talla or upper and lower pattis. Dárma is bounded on the north by Húndes; on the west by the chain containing the Pánchachúli group and the Chhipula peak; on the south by a line drawn from the latter peak due east to the Káli river, and on the east by the chain culminating in Yirgnajung (20,264 feet) separating it from the Byáns valley and Patti Chaudáns. The boundary between the Mallá and Tallá pattis runs along the ridge stretching north-east from the Chhipula peak to Tejam on the right bank of the Dhauli river. The Dárma Patti occupies both banks of the Eastern Dhauli as far as the western spurs of Yirgnajung whence it is confined to the right bank of the river to its confluence with the Káli. Dárma is approached from Barmdeo by Lohughát, Pithoragarh and Askot; from Almora by Pithoragarh and Askot, and from Bágeswar by Thal and Askot. From Askot the stages are Baluwakot, Dhárchúla, both very hot, and Khela or Sayálpanth, the first important village in Dárma. Khela comprises a large extent of terraced ground formed out of a huge hill side that rises in a steep uniform slope for several thousand feet above the confluence of the Dhauli or Dárma-Yankti with the Káli. The houses and huts are few and mean. Khela has an elevation of 4,750 above the level of the sea, and about 800 feet above the confluence of the rivers. The Khela river forming the boundary between Talla Dárma and Askot has an elevation of 3,794 feet above the sea at its confluence with the Káli. From Khela the route follows the right bank of the Dhauli to Baun (*q. v.*) and Khimling. Talla Dárma, or the lower part of the valley, is more open and resembles the lower portions of the other Bhot parganahs as far as Sobhula, where the Malla Patti commences. Above this, the valley has quite a Bhotiya character, rising gradually as a rule, and in some places somewhat abruptly,

Dárma.

until at Baun an elevation of 11,600 feet is attained. The passes of the Darma valley into Hundes are reached by Dawa and are known as the Kachh-lekh and Neo-lekh or Dhúra. There is also an inter-Himálayan pass to Rálam in Juhár by the Phúla-Yankti from Sipu on the Lissar torrent and to Byáns by the Lebun-dhúra from Khimling. These like all the passes running east and west are only open for a few days during the year. The Dárma Bhotiyas are the poorest and most badly off of all the Bhotiyas, and owing to a murrain which swept off nearly all their cattle in 1846, and losses from avalanches on their villages and roads as well as the contracted nature of their valley, they have not even yet been able to liquidate the debts that they were obliged to contract with their agents at Almora and Barmdeo. During the winter they descend to Askot, Pithoragarh, and Barmdeo, and can therefore collect but one crop in Dárma and Byáns ; in Chaudáns, however, two crops are gathered in favourable seasons.

Chaudáns.

Chaudáns is bounded on the north and west by Dármá; on the north-east by Byáns and on the south-east and south by the Káli river. It comprises the tract on the left bank of the Dhauli river from opposite Baunling to its confluence with the Káli, and the tract lying along the southern and eastern extremities of the chain containing the peak of Yirgnajung to the banks of the Káli. It is altogether only about twelve miles long from north to south, and eight miles broad. The road from Khela in Dárma passes by Sosa under Titalakot to Bungbung (7,500 feet high) about four miles and a half from Titalakot, crossing the Rholing pass (10,000 feet), which is thickly clothed with forests of horse-chestnut that here attain a large size. Hence the road passes on to Gála less then two miles distant. Near Gála the Nirpániya-dhúra or pass is crossed, to the east of which glimpses of the snowy ridges called Namjang (18,500 feet) and Lingam are obtained. These are inferior spurs of the great mountain Api (22,799 feet) on the opposite side of the river Káli. The name Nirpániya is given from the absence of water, but the proper name of the ridge appears to be Gála. The eastern extremity where it is crossed by the road is divided by two shallow ravines into three minor ridges, the first from Chaudáns called the Yirgnachim ; the second Birdong, whence there is a good view into the valley of the Káli up to

Budhi, and the third Tiyungwe-bináyak which is the boundary between Chaudáns and Byáns. These differ little in height, and may be about 10,500 feet above the sea. From the Nirpániya pass, a descent of about 300 feet leads to Golám-lá (8,000 feet) about five miles from Gála. It is a mere encamping ground marked by a large gneiss rock overhanging the confluence of the Nájangár and the Káli which is from 1,500 to 2,000 feet below, the declivity between being almost precipitous. Beyond this the Káli is reduced to a gigantic ravine. From Golám-lá the path continues often in steps and rather precipitously around the shoulder of Pommayar, a base-spur from Yirgnajung and thence descends and crosses the Malpagár torrent, and ascending the side of Chantirang again descends to the bed of the Káli at Lámári (8,000 feet). From Lámári the path ascends a little and continues along under Yirtashin crossing the Taktigár and Palangár to Budhi, the first village of Patti Byáns.

Byáns.

Patti Byáns is bounded on the north by the dividing ridge between Húndes and Bhot; on the east by the same ridge which here suddenly takes a bend to the south-south-east and by the Káli river which separates it from Nepál; on the west by the lateral chain culminating in Yirgnajung and Patti Chaudáns and on the south by the Káli river. This is the most eastern sub-division of Bhot containing the valleys of the Kuthi-Yánkti and the Káli which form respectively the approaches to the three Byáns passes into Húndes, the Lunpiya and Mankshang-lekhs on the west and the Lípu-lekh, Dhúra or Thán on the east, the latter leads to Taklakot in the Purang valley, and is by far the easiest of all the passes. In the glen of the Tinkhar river on the eastern side of the Káli are a few Bhotiya villages subject to Nepál which are completely isolated by snowy peaks on the east and south from Nepál, and are altogether, except politically, a portion of Byáns. Up to the Gorkháli conquest of Kumaon, Byáns belonged to Jumla of Nepál and was annexed through the Rájbár of Askot to Kumaon in the last decade of the last century.

Itinerary.

The approaches to Byáns are the same as those given for Dárma. From Khela of Dárma the road continues along the right bank of the Káli to Budhi, the first and only sub-alpine village of Byáns situated at an eleva-

tion of 9,070 feet above the level of the sea on the right bank of the Pálangár stream above its confluence with the Káli. Immediately above Budhi a steep ridge advances from the mountain side on the north-west and extends across the valley, leaving but a narrow passage for the river. The summit of Chetu-bináyak is then reached after an ascent of about 1,750 feet by an easy path and thence the entrance into upper Byáns.[1]

Upper Byáns.

The first village in upper Byáns is Gárbiya or Garbiyang (10,320 feet), close to the Káli river. The houses here are two stories high quaintly and closely studded with poles erected for ornament or most probably from some superstitious motive. A little beyond stand the remains of the village of Chhindu, the rest of which has been swept away by the river. The base of this valley is formed by an accumulation of old alluvium and débris from the surrounding mountain sides in strata of considerable aggregate thickness and loose consistency, through which the river appears to have cut its present channel, three or four hundred feet below the site of the present villages, and to the great danger of those which are too near its bank. The Chetu hill above Budhi is in fact the abrupt termination of the elevated bed of detritus, forming to the south an acclivity of 200 feet or more in vertical height; to the east and north-east where the river breaks through it appears in cliffs and landslips many hundred feet high.

Changru.

From Gárbiya the path descends to the bed of the river and crosses by a bridge a little above the confluence of the Tinkhar, a large stream not much inferior to the main body of the Káli coming in two branches from the east and north-east. A little above the bridge and on the top of a steep bank, is the village of Changru (9,900 feet). The Káli now turns abruptly to the north-west through a steep rocky mountain defile, whilst the path follows the left bank to Gungi (10,310 feet) at the entrance of the Kuthi valley. From this valley there are two passes to Rákas Tal, the Luppiya, and Mangshang, which are considered not more difficult than the Lípu pass. There was formerly another pass from the neighbouring district of Márma

1. The authority for this description is principally Captain H. Strachey's Journal (J. A. S. Ben. XVII. (2), 527). See also Rákas Tal, Mánasarowar, Purang, Kailás, for the tract to the north.

in Nepál; but this has now become impracticable, and the people come through Byáns. From the confluence of the Tinkhar the road follows the valley of the Káli; to the right is Kelirang, supposed to be presided over by Byáns Rikhi or Vyása Rishi, the reputed author of the Mahábhárata. Close by are the uninhabited hamlets of Jákti and Siti, belonging to the Gárbiyals which appear to have suffered much from landslips. Hence by Talla and Malla Kawa 'Nepálese hamlets' the Kuthi road crosses the Káli, the smaller branch of the river from the north-east by a small *sánga*, 150 yards above its confluence with the Kuthi-Yánkti, which is the larger branch from the north-west. The Káli here has a bed 150 yards wide, but contracting into much narrower limits a mile further up, and the stream in September is all but fordable, though in the height of the rains it, sometimes, swells so much as to carry away the bridge here, and the road then has to cross higher up. The name of the Káli is said to be derived from the Kálapáni springs, erroneously reputed the source of the river, but in fact unimportant tributaries merely: and both are so called from the dark colour of the water, but even in this respect the Káli is exceeded by the Kuthi-Yánkti. This eastern Káli, however, is now the actual boundary between the British and Nepálese territories, and, according to the Bhotiyas of the place, has always been so.

Kuthi valley.

We now enter on a fine expanded valley of considerable length through which flows the Kuthi-Yánkti or western branch of the Káli. At the lower end the flat and habitable, if not cultivable, land must exceed half a mile in breadth, consisting of alluvial detritus similar to that at Garbiya. On the right bank of the river is the village of Napalchyu situated on the Per-Yankti, a deep *gár* or stream coming from Namjang the second of that name, a snowy peak to the south-west. Two miles beyond Napalchyu on the left bank is Nábhi, a village like the others with a large expanse of cultivated fields, and opposite to Nábhi on the right bank is Rúnkang on the Dangnung-Yánkti, which comes from the Rúnkangper, a snowy ridge on the south-west, through a deep ravine dividing in two the mountain side. A pass across the Rúnkangper, now dangerous and disused, once led into the Pálan-

Nábhi.

gár valley below Budhi. It was by this route that Rudrpál, Rájbár of Askot, entered and subdued Byáns and annexed it to Kumaon under the Gorkhálís. The Dangnung is a good sized stream with several wooden bridges across it for the use of the villages on either bank. There is also a bridge across the Kuthi between Rúnkang and Nábhi. Two miles more along the river bank leads to Mangdang, a small level under the Chhachala peak opposite to which is Relakang, a hamlet belonging to Nábhi at the foot of a low hill spur which advances into the valley from Shángdoli, a mountain thickly clothed with pine and birch. Half a mile from Mangdang the road crosses the Náhl-Yánkti, a small stream proceeding from the mountain of the same name. On the opposite side of the river is the Ganka, a glacier stream of considerable size and velocity. Here the valley contracts, leaving little or no level ground at the bottom of the slopes of the inclosing mountains. On the left bank are the Nampa and Shakshiram *gárs* or streams proceeding from the mountains of the same names, and several glacier and snow torrents. On the opposite side are the Selasíti and Khárkulum torrents.

Kuthi.

As the road approaches Kuthi, the mountains on the left bank recede a little, and then curve round with a fine sweep to the northward, enclosing a good expanse of tolerably level ground around the village of Kuthi. On the right bank the Pechto river comes through a deep ravine from a glacier under Gyuk-dhura, by which there is a pass into Sela of Dárma still used. Before reaching the Kuthi village, the Hikong is passed, coming from a glacier under the snowy peak of Kariya through a very deep channel in the low ground of the valley which here, as lower down, consists of deep accumulations of débris from the surrounding hill sides. The houses in Kuthi are wretchedly built, consisting of two or three storeys resting against the hill side. Beyond this the Hiúnre, a stream like the Hikong proceeding from the Gunye peak through a deep ravine, is utilised for turning water-mills (*ghát*o). Kuthi, the highest inhabited site in the valley, has an elevation of 12,330 feet above the level of the sea. The mountain sides around have a scanty covering of a poor brown grass with a little juniper and *dáma* or goat's thorn (*Caragana*

pygmœa) to the height of a thousand feet or so, above which is bare rock and thin snow. On the other side of the river, the mountains throw out some inferior spurs of hill, on which are scanty birch trees degenerating to mere shrubs, and the highest of them not 500 feet above the level of the village. This valley is so shut in by lofty mountains that the sun does not show his face until some two hours after the proper time of his rising, and apparent sunset is premature in the same degree, so that the length of the day is much curtailed, which the climate of the place can ill afford.

The Pass.

From Kuthi the route across the Lunpiya-lekh into Hundes descends and crosses the river by a *sánga*, and a mile or two further crosses the Mangdang rivulet. The valley here narrows to a mere open glen, the path one or two hundred feet above the river gradually rising and the mountains on either side decreasing in relative height. The Toshi-Yánkti, a considerable stream,[1] nearly as large as the western branch of the Kuthi river, enters the main valley here from the north by a very large ravine. Beyond this is the ridge of Sangchúngma at an elevation of 13,900 feet. Hence the path continues by a very easy ascent over the same sort of undulating berm on the hill side that prevailed before and then crosses the Nikúrch rivulet and again the Jhúling-Yánkti, up which is the pass by the Lebúndhúra into Khimling of Dárma. Jhúling (14,350 feet) is the usual halting place between Kuthi and the foot of the Lunpiya pass.

From Jhúling another stream is crossed passing through Byánkshiti, a small pool which tradition says had the name of Mán-talao, given to it by a former Raja of Byáns, who also called a peak of no great importance close by Kailás, after their great prototypes in Húndes. Thence the Rárub-Yánkti is crossed, which consists of one or two rivulets flowing through a remarkably wide and level bed that looks much like an extinct lake with a single small exit into the Kuthi river. Beyond this in September the snow entirely covers the ground wherever that is level enough to retain it; it remains tolerably deep in hollows and on the northern slopes, but well frozen and hard enough to afford fair footing to man and beast. After a march of eight miles, Phiámangbu or Walshiya, the name

[1] Entered as Kembelchoo in the old maps.

given by the Bhotiyas of Byáns to the *dakhná* or foot of the pass, is reached at an elevation of 15,750 feet above the level of the sea. The Kuthi river here consists of a small divided stream winding through a wide and level bed.

Source of the river.

From Phiámangbu the stream of the Kuthi, here shallow and half frozen, is crossed, and the path ascends the mountain side to the northward. The valley now comes to an end, further progress would appear impracticable except by scaling the hills on either side. Captain H. Strachey writes:—"The Kuthi-Yánkti rises not far off to the westward indeep beds of snow by reason of which the head of the river appears to be quite impracticable. The road, however, lies over a moderate acclivity, but completely covered with snow, which goes on increasing to an unpleasant depth. The glare is intense; the surface of the snow is frozen and hard enough to afford tolerable footing to a man on his own feet; but the cattle sink deep at every step; when only knee-deep they get on though slowly, but when the snow meets their chests, it is with the utmost difficulty that they can gain a step, being also exhausted by the rarity of the air which here affects both man and beast." Two thousand feet is Strachey's estimate for the vertical height from Phiámangbu at the bottom of the pass, and the horizontal distance is only four miles; the absolute elevation of the pass is 18,150 feet. Captain Strachey adds that it appeared to him to be something inferior to Unta-dhára and Jainti of the Juhár pass. The prospect from the top of the pass was obscured by clouds, and nothing worth notice was seen in any direction. "The imagination of the novice in these scenes usually anticipates wonderful prospects from the lofty summits of the Himálayan passes, the natural and political barrier-wall dividing two great kingdoms, from which the eye hopes to range one way over terraces of mountains descending to the plains of India, the other over vast expanses of Tibetan table-lands. Such views are hardly to be realised from the passable gorges of the Himálayan crest whence the prospect is interrupted by obtruding shoulders of higher mountains. What nature can afford of panoramic sublimity, the traveller may see from the heights above Shák on the road from Laphkhel to Dangpu, and the

View from the pass.

most exacting imagination might hardly be disappointed with that glorious view; some part of that is to be seen from the Níti pass, the only one that admits of any tolerable prospect into Hundes; from the top of the Lakhar over Chhirchun I (H. Strachey) had some faint and narrow glimpse of the distant Gángri mountains. The place of encampment at the foot is called by the Bhotiyas Lunpiya, *dakhna* or *walshiya;* by the Huniyas, Lárcha it is near the head of a valley which rises from the Byáns Himálaya to the south eastward, and running for a few miles north-westward, turns east of north into the valley of the Satlaj. Upwards nothing but pure snow is visible, downwards a few symptoms of bare rock, as the valley expands; and the mountains on either side subside into hills, and through the opening northward is a glimpse of distant blue mountains, part of the Gángri range. The descent from the Lunpiya pass opens into this valley from the southward; the top of the pass is not visible from the *dakhna*, being hidden by the lower declivities, which are rather steep." Therm. 9 A.M.,—October 1st, 29°.

Gunji.

It only remains to describe the route from the Lípú-lekh pass to Gúnji to complete the topography of Byáns. Following the same guide who crossed it from Húndes in October, 1846. For three or four miles from the *dakhna* at the northern side of the Lípu pass the road is fair and straight along a tolerably easy ascent, so that, starting in the morning, the summit is easily reached by noon. Captain Strachey writes:—"Seven or eight hundred vertical feet of the summit was pretty well covered with snow, but this was for the most shallow and well frozen, or where otherwise, so beaten down by the traffic of men and cattle, as to make a very good path, over which we travelled without any difficulty. The sun was shining bright, but the passage of snow was not long enough to entail any injury from the glare, though that was of course considerable. The rarefaction of the air was sensible, but in no way distressing to any of us except the ponies, who seem to have very little endurance in this matter. Lípu-lekh, like most of the other passes, does not command any extensive prospect. I saw nothing but low, ugly-looking, snowy ridges on all sides, a partial glimpse of Gurla, and a spur of bare hills down below in the direction of Taklakhar. The descent down

the south-west side of Lípu was long but not steep, with much the same quantity of snow as on the north-east side. The road, fairly made or naturally good, follows the right bank of the Káli, which rises in water courses under the pass. There is no vegetation here except grass and small herbs. Next reached Yirkha, which has one house and a few fields, on the right bank of the Káli, just above the confluence of a large stream coming through a deep ravine from the westward. Kálapáni bridge some way lower down is 11,760 feet. Lípu-lekh must be passable for the next month or two, if no fresh snow should fall in the interin; indeed, I can readily believe the passage might be effected safely even in the middle of winter, if not over severe, only with proper arrangements and precaution." Hence the road crosses over the left bank of the Káli under Yirkha, a mile below which is a good-sized stream coming through a deep ravine from the eastward, with plots of cultivated ground at the confluence, very similar to Yirkha; thence recrossing the river, the road lies over a great landslip which for some years past has quite obliterated the former hot-spring of Kálapání. The name, however, has been transferred to another spring further down on the left bank of the Káli (to which the road crosses again), but the water here is neither black nor hot, nor in any way remarkable. Below this the valley begins to expand, and gives room for Shangdama, a very pleasant little flat on the left bank of the river, beautifully planted with pines and close below Shangdama, is the hamlet of Kawa whence Gúnji is reached.

Communications.

The means of communication are sufficient in number, and efforts should be directed to improving those that exist by bridging the torrents, clearing the tracks from the detritus of avalanches (*hiúnra* or *rhi*), and constructing shelter houses in favourable situations. Practicable tracks connect the main lines with each other, leading over the ridges that intervene in parts offering the least difficulty, but in the upper pattis, as a rule, passable only for a few days in each year and at all times difficult and dangerous.

"These bye-roads," writes Traill, "and, indeed, all roads follow the bank of some river or stream as far as possible, and only deviate from it, as a last resource, where a rocky precipice, impassable by other means, presents itself. Obstructions of this nature, which are here frequent, are, if feasible, avoided by means of

bridges; or are surmounted by the aid of a scaffolding formed of spars, and supported by joists, fastened horizontally in the face of the rock, an expedient, which however is only pursued where natural crevices or ledges are available. Where a passage over the obstruction is inevitable, a considerable detour is usually necessary for that purpose, and the road, in these cases, is always difficult, and sometimes attended with danger. The bridges are of the *sánga* kind; and being intended for the passage of laden animals, they are made with greater attention and better materials than are commonly given elsewhere to such erections. In the early part of the season natural bridges of snow, formed from the accumulation of avalanches, abound, more particularly in the upper part of the passes, where the stream is invisible during much of its course. The frequency of mountain slips (*paira*) renders the preservation of the road an object of constant toil to the Bhotiyas. By accidents of this nature, the course of the river is sometimes completely blocked up for two or three successive days, and every part of the pathway within its reach, is swept away by the accumulated torrent, not an atom of soil, being left on which to found a new road; on forming the latter a deviation from the old line and level becomes necessary in consequence. The passes, taking their whole extent, may be said to be barely practicable. The Bhotiyas travel through them without difficulty under burthens, but natives of other quarters of the hills are compelled, in many places, to proceed with the utmost caution, even without loads; at such points animals of every description require the assistance of manual labour; the larger kinds, such as ponies and cattle, are raised or lowered according to the nature of the obstruction, by means of slings passed round their bodies. Comparatively speaking the Niti is considered as the best, the Juhár as the most difficult pass in this province. A tradition is here current that when Bhot was originally conquered by the Kumaon power, a road was formed by the invading army to facilitate its progress through the pass; this operation, the commander (Raja Báz Bahádur Chand) is said to have personally superintended, paying a rupee with his own hands for every cupfall of earth brought to the spot." During the rainy season to insecurity under foot must be added insecurity over head. Fragments of rock and avalanches are frequently detached from the impending cliffs, and annually occasion fatal accidents in each of the passes.'

Climate.

In the absence of a regular series of observations the notes of travellers as to the climate and temperature is all that is available :—

Miram,	May 28th,	4-20	A.M., 49° in shade—W.[1]
Do.	do.	1-30	P.M., 77° in tent—W.
Do.	do.	5-55	P.M., 52° in air—W.
Do.	29th,	4-30	A.M., 35° in tent—W.
Do.	Sept. 24th,	8-0	A.M., 37° in shade—M.
Do.	do.	12-20	P.M., 66° in shade—M.
Foot of Balchha,	June	1-4-20	A. M., 31° in tent.
Unta-Dhura,	May 29th,	9-15	A. M., 61° in sun.
	June 3rd,	8-17	A. M., 39° in shade.
	Sept. 24th,	3-10	A. M., 39°—M.

[1]W. stands for Weller; M. for Manson.

According to Traill:—"Generally during full half the year the surface is wholly covered with snow; this begins to fall about the end of September, and continues to accumulate to the beginning of April. Thaw then becomes predominant, though partial falls occur till even late in May. In open and level situations, unaffected by drifts or avalanches, the bed of snow which at its maximum depth varies in different years from six to twelve feet, is wholly dissipated by the first week in June; in ravines and hollows, it does not entirely disappear before the middle of July. The seasons of spring, summer, and autumn are comprised within five months, from May to September inclusive; but an interval of four months, without a fall of snow, is rare." The thermometer ranges during summer at sunrise from 40° to 55°; at noon, from 65° to 75° in the shade from 90° to 110° in the sunshine. Towards the middle of August, the temperature becomes precarious, and the weather subject to sudden and severe changes, which the natives suppose are accelerated by any concussion in the air, such as that produced by the discharge of fire-arms or loud musical instruments; and much precaution is observed to prevent the occurrence of such concussions. Heavy rains sometimes fall: Webb, during his visit in the beginning of June, found them to continue for seven nights and six days without intermission.

Dress.

The houses are commonly large, consisting of two or more storeys substantially built of stone, with sloping roofs of slate or *deodár* planks, or earth and gravel beat smooth. Where this last material is made use of, a previous layer of brick work or boughs is requisite to render the roof water-proof. In the choice of a site for building, security from avalanches forms the primary consideration; but even the greatest foresight sometimes proves vain. In 1822 more than 20 houses were swept away by an avalanche in the village of Mána, although it is, at least, two miles distant from the peak whence the destructive mass must have proceeded. Sometimes, when a suitable cave is found, the Bhotiyas make it their home by throwing out a verandah in front. The dress of the male sex consists chiefly of woollen stuffs of house manufacture. It

generally resembles that worn by the inhabitants of the pattis lying further south and consists of the usual coat (*anga*), trousers (*paijama*) and cap (*topi*). The Bhotiyas of the Dárma parganah invariably wear woollen boots reaching nearly to the knee and soled with buffalo hide. These are composed of stuffs of different colors sewn chequer-wise ; in the western valleys, the boots are of plain woollen stuff. In the same valleys, the Juhar Saukiáni or female Bhotiya wears a woollen plaid which she wraps around herself in the same way as Hindu women of the plains wrap a *sári*. She eschews skirts, but fastens her plaid over her bosom with a large pin, and gathers it in at the waist with a woollen belt. It is not considered immodest to leave the face unveiled, but they are learning fast this custom from their intercourse with the plains. In Dárma, however, the women retain a dress fashioned after that of the Huniyas. "This," writes Traill, "consists of a web of cloth folded round the body, and descending from the waist to the ankles in the form of a petticoat ; at the waist it is secured by a girdle, commonly of leather; above this is a shift without sleeves, reaching below the knee ; while above all is a narrow hood fixed on the top of the head and covering all but the face, showing a tail descending down the back nearly to the heels ; a pair of boots, similar to those of the men, completes the equipment. The above articles of dress are all made from woollen stuff, dyed either red or dark blue, having narrow white stripes. The ornaments of these ladies baffle description, and bear no resemblance to anything worn elsewhere : the most prominent are the ear-rings, commonly of pewter, which in size and shape may be compared to a massive house-door key. Strings of large pieces of coarse amber are worn round the neck in addition to two or three necklaces. The Bhotiyas of both sexes and of all classes in every pass carry suspended from the waistband by small chains or thongs of leather, a variety of instruments of daily use, such as knife, spoon, scissors, awl, packing needle, tweezers, steel, flint, tobacco pouch, &c.

Food.

The Bhotiyas consume large quantities of food, particularly flesh, of which a constant supply is afforded to them in the carcases of their sheep and goats, which die of fatigue or disease. They eat flesh half raw or

cooked, and are fond of boiling it with rice, but do not first wash or clean the rice, as they say that this would prevent its being properly cooked. They parch barley and then grind it, with the result of a sort of *suttu* which they use chiefly in their journeys mixed with water, as oatmeal is used in Europe. The better classes of the Garhwál and Juhár Bhotiyas abstain from the use of beef of every description, but the Nilang Jádhs to the west and the Dármas and Byánsis on the east eat the flesh of the yak. All Bhotiyas drink spirits, both European and native, as well as that made by themselves, and in extenuation of the practice plead necessity from the nature of the climate in which they live, and the arduous and fatiguing character of the journeys in which they are constantly engaged. When collected together in any place they have frequent drinking parties, which are continued during the whole night, and sometimes kept up even for the ensuing day. Intoxication with them does not, however, lead to riot or disorder. The liquor in use is of two descriptions, *dáru* or whiskey, produced by distillation and *jan*, obtained by simple fermentation: the latter is the favorite beverage. Both are procured from rice: to hasten the fermentation dried yeast (*balma*) reduced to powder is added: a few hours only are required to render the *jan* fit for use. The *balma* is prepared from the meal of barley or other coarse grain on which an infusion of the berries or sprigs of the juniper in water is made to filter: the dough is kneeded, and when ready dried in small cakes for keeping. The Bhotiyas do not follow the observances of the Hindus in the matter of food cooked without *ghí* and with *ghí*, and take each without distinction at the hands of all except Doms. Still, slowly and surely, they are becoming Brahmanised, and already imitate in many minor matters the tedious ceremonial prescribed by the customs of the plains.

Character.

Traill represents the Bhotiyas as an honest, industrious, orderly race, patient and good-humoured, but very filthy in their habits, using the skirts of their dress to scrub both their persons and their cooking utensils. In this trait they are only surpassed by their neighbours the Huniyas. They have most of the virtues and the vices of the people of the lower hills, but they are superior in energy and industry, and

perhaps in general intelligence. The heads of the Bhotiya villages often remarkably sensible and well informed ; their mode of life gives them more experience of the world than the people of the hills generally possess, and they take a much greater interest in matters not immediately affecting them than is commonly found amongst eastern people. Their intelligence is entirely the result of their own observation and experience ; they seldom possess any education beyond the ability to read and write and to keep rough accounts of their trading operations, but of what they may become we have an example in Pandit Nain Singh, the great explorer of the Trigonometrical Survey, and his fellow-travellers, several of whom were Bhotiya residents of the Juhár valley. To this we may add Sir H. Ramsay's testimony :—"The old race, among whom Debu, (who assisted Moorcroft), Huguru, and Fateh Singh were well known, have passed away, and none of the present generation can exercise the power and influence they did : but the Juhárís are decidedly the most intelligent and most wealthy of all the Bhotiyas. Dhanu is a very enterprising man, and Máni,[1] son of Debu, is patwári of Dárma. He and Máni, son of Fateh Singh, Dhanu Janpán, and Gyáni, son of Huguru, are now the leading men amongst the Juhári Bhotiyas." Still the Bhotiyas want the natural politeness of the Hindus of the plains, and are often churlish and rough in their demeanour towards other natives. Theft is hardly known, and on moving downwards on their annual migrations they bury within their houses their more valuable metal utensils. In Juhár they say that he who commits larceny amongst the Pánchachuli hills shall surely die because of it.

Including under the name Bhotiya only those who are clearly not Khasiya, it cannot be doubted that they are of Tibetan origin. Their

Customs.

language alone is almost sufficient to prove this, and the unmistakeable peculiarities of feature that belong to the Mongolian race are as strongly marked in the Bhotiya as in the Huniyas across the frontier. The traditions current amongst them, too, help to confirm this opinion.[2] The Bhotiyas themselves, however, do not admit their Tibetan origin. They state generally that they are a Rájput race who dwelt

[1] He assisted the Schlagentwe its in their journeys. [2] See the story of the colonisation of Juhár in Gaz. XI., 455.

originally in the hill provinces south of the snowy range, and that they migrated to Tibet, whence, after a residence of several generations, they again crossed the Himálaya and established themselves in the districts which they now inhabit. The traditions of the different valleys, though differing in detail, agree in the main outlines of the story. That this tradition is not of very modern origin appears certain, and it is possible that it may be true, for the existence of Rájput colonies in Tibet at a very early date is recorded in histories both Tibetan and Chinese. The Bhotiyas have, however, lived so long amongst and mingled so much with the Tibetans, that they themselves possess now no claim to be recognized as of Indian origin. The traditions both of the Bhotiyas and of the inhabitants of the country further south uniformly declare that the Bhotiya districts were once subject to the adjoining province of Tibet. No records exist by which the question might be decided, but there appears to be no reason to doubt the fact, and that the present occupants are descendants of the original Tibetan settlers.

The people.

The results of the several enumerations of the people are given elsewhere. The Bhotiyas of Mána and Níti are called Márchas and those of Juhár as known as Sokpas or Ráwats. The Ráwat ancestor of the Milamwáls obtained permission from the Gartoh chief to establish himself in trade and built Milam, Búrphu, and Mápa, and received a grant of *chún-pal* (*jagát*) from the Huniyas. The Márchas and Sokpas eat and drink and intermarry together, and there are no real differences between them. Both alike look down on the Bhotiyas of the Dárma pattis, and neither eat nor intermarry with them. Although the almost constant intercourse which the Bhotiyas maintain with Hundes and their yearly residence for a considerable time in that country cause many of their habits to assimilate to those of the Huniyas, yet, with the exception of the people of the Dárma parganah and Nilang, the general customs of the Bhotiyas approximate much more nearly to those of the natives of other parts of Kumaon and Garhwál. They certainly pay comparatively little attention to the distinctions of caste, and they do not scruple to eat and drink with the cow-killing people of Hundes. The Bhotiyas of Juhár[1]

[1] Gaz. XI., 458.

acknowledge only two castes, Brahmans and Rájputs. They know nothing of the sub-divisions known as *gotra*, *sákha*, and *pravara*. Some who derive their origin from the Ráwats of Garhwál (*q. v.*) say they are of the Kaunsil *gotra*, and others who declare themselves Bhatts of Benares affect to belong to the Kausika *gotra*. They do not wear the sacred thread, but adopt the uncut tuft of hair (*sikha*) as all Hindus do. They will eat half cookery *kachchi rasoi*, *i.e.*, food cooked without clarified butter from any one not a Dom contrary to the custom of most hill Hindus who have no scruple, however, in eating such food if dressed with clarified butter (*pakki rasoi*) whoever the donor may be. They also disregard much of the etiquitte of eating observed by other classes calling themselves Hindus. Thus they often enter their *chauka* or cooking circle without washing their feet or taking off their coats, and eat their dinner in the same clothes that they wore at breakfast, and they are not particular whether they eat their food within or without the cooking circle.

The principal clans of Bhotiya Brahmans in Juhár are the Dobedhiyas, Páthaks, Karákhetis, Nauragís, Polchál, Upádhiyas, Darmolas, and Nágilas. Amongst the Rájputs we find Janpánis and Toliyas, said to be immigrants from Jumla in Nepál, Mártoliyas, who claim to be Bhatts from Benares, those named after the villages of Birju, Búrphu, Milam, Namjal, Sain, Rilkot, Chulkot, Ringu, Laspa, Lwál, Dhámigaon, Saináthi, Khilaunch, Máni, Ghorhphata, Dhápa, Rálan, Harkhot, Páparha, also Panktis Nitwáls, Mahtas, Aspwáls, Kunkiyas, Shumtyáls, Támákyáls, Joshyáls, and Bhotyals, with a similar village origin. There are no Brahmans in the Dárma Pattis. In Dárma Malla and Talla we have septs of Rájputs named after the following villages:—Baunáls from Baun, Dúgatwáls, from Dúgtu also from Lámá, Philam, Chul, Shípu, Shaun, Dur, Jumku, Butun, Marcha, Go (Gwáls), and Dántu, besides Jumáls, Kanáris, Shawaláls, Nogatyáls, Gargwáls, &c. In Byáns there are Rájput septs named after the villages of Gárbya, Tinkhar, Kuthi, Chhalma, Nábhi, Napalchyu, Gúnji, Budhi, &c. The people of Chaudáns are called Chaudásiyas.

Garhwál Bhotiyas.

The Bhotiyas of Mána are called Márchas and this name is equally applied to the people of the upper villages of the Níti valley. They eat, drink,

and intermarry with the Juhári Bhotiyas, but not with those of the Dárma parganah. Like the Juháris they do not know of *gotra sákha* or *pravara*, though some say they are of the Bháradhváj *gotra*. They observe some of the Hindu ceremonies, but not the *upanayana*, nor do they wear the sacred thread. They choose their purohits when necessity arises from Dimris, Hatwáls, Duryáls, and Dádis. The inhabitants of the villages not occupied by Bhotiyas in the Mána and Níti valleys are called Duryáls in the former and Tolchas in the latter. These are of Khasiya origin and affect in turn to consider the pure Bhotiyas as an inferior race, whilst they themselves, from their intercourse with the Márchas, are rather lightly esteemed by the Khasiyas of the southern parganahs, and all unite in assumptions of superiority to the natives of Tibet, though on their annual visits to that country they are compelled to drink tea at the houses of their several correspondents, such ceremony being there an indispensable preliminary to every commercial dealing. The principal other clans are the Juháris, immigrants from the Juhár valley; Molapas who call themselves Bhatts from Benares; Nítawáls; Jhelamwáls; Dhamaswáls; Bampwáls; Námphas; Barwáls; Phoniyas; Mádyas; Bhátarjyas; Pankhotis; Dhárkholis; Kalkholis; Burphwáls; Gadyáls, and Bhurkulyáls. There are Khyúrásis from the lower pattis: Konkyas who are servants and some Doms.

Jádhs of Nilang.

To the west the Bhotiyas of Nilang in Tihri are called Jádhs. Like the others, they were originally Huniyas from Tibet, but have now a large admixture of Garhwáli and Basáhiri blood, due, in a great measure, to the former practice of purchasing slave-girls from the poorer Garhwális. This custom was stopped by Mr. F. Wilson on the part of the Raja of Tihri. The girls were not bought ostensibly as either wives or concubines, but merely as servants to aid in the house and field, and living in the houses of their masters and eating with the family, were well treated, and comfortable. Though these girls, Hindus, often of a fairly good caste, are not supposed to intermarry with people of a different religion, yet the natural result of their close association with their masters, combined with a low standard of morality, is the gradual admixture of a Garhwáli element with the Basáhiri-Huniya Jádh stock. Even when manumitted some

preferred to remain with their masters, the only difference being that they can now leave if they choose. Mr. Kinney writes[1]:—"In dress, manners, and customs, the Jádhs follow pretty closely their Huniya ancestors. They drink as freely as the pure Tibetans, both *chang* and also a spirit which they themselves distil, and which the Huniyas do not drink; they are also very fond of European spirits, and will do a good deal for a bottle of whisky or rum. They eat yak's flesh but not cow's. In religion they are professedly Buddhists, but practically are as much mixed in this respect now as in descent, and can hardly be said to belong to any particular religion. When in Tibet amongst the Huniyas, they conform to all their religious observances; when in Basáhr, some portions of which are Buddhist and some Hindu, they accommodate themselves to the opinions prevailing around them; when in Garhwál they pay reverence to all the numerous hill deities, and when at home, in their own village, they appear to trouble themselves very little about religion at all."

Religion.

The form of religion professed by the Bhotiyas has been naturally influenced by their peculiar situation and pursuits, subject to a government which, as regards the infringement of its religious tenets, was ever intolerant. "The Bhotiyas," writes Mr. Traill, "have been compelled to conform with the Hindu prejudices; continued intercourse with the latter sect has also led to a gradual adoption of many of its superstitions, while the annual communications maintained with Tibet have served to keep alive the belief of their forefathers. The Bhotiyas may now be regarded as Pantheists, paying equal adoration at every temple, whether erected by Hindus or Bauddhas. The only temples in *Bhot* are small rude buildings erected with loose stones, merely sufficient to shelter the idol. Among the Dárma Bhotiyas divination is practised; the omens are taken from the reeking liver of a goat or sheep, sacrificed for the purpose, by ripping up its belly. No undertaking of importance is commenced without this ceremony; when the first augury proves unfavorable, fresh animals are sacrificed, and further inspections made; the result of the majority of omens decides the question. The office of divi-

[1] Mr. Kinney, Rep. G. T. S., 1877-78.

ner appears to be assumed indiscriminately by all males of good age; certain previous purifications being undergone on each occasion." There is no doubt that of late years the Juháris have affected more and more to imitate the scrupulous caste observances of the Hindus and have assumed the affix '*Sinha*' to show their Rájpút origin. They refuse, too, to drink spirits, of which they consume large quantities, out of the same vessel with a person whom they consider to be of an inferior class, and altogether they have as much right as the Khasiyas of the less civilised parts of these districts to be considered Hindus in religion. Strict puritanism is impossible in the tropics and similarly strict Hinduism is impracticable in a cold climate, and the respect which the Bhotiyas show to the religion of their Tibetan neighbours may be derived as much from the tolerant opinions which Hindus generally profess as from any traditional reverence for what was probably their ancient faith. In Garhwál the favourite deities are Ghantakarn or Ghandyál,[1] Máta Murti,[2] Bampanág,[3] and Acheri,[4] to whom they offer goats and buffalos and afterwards eat them. In Kumaon the favorites are Kiwán, a sort of Himálayan Hercules; the deity who dwells on the Panchachúli peaks; Deo or Runiya,[5] a molevolent spirit; Sáin, the benevolent spirit of an ancient Sáin or hermit who, when the Bhotiya has lost one out of his flock or herd, appears in the form of a man and leads the owner to the spot where his lost one will be found. Siddhuwa and Biddhuwa are the names of two harmless goatherd brothers, who are supposed still to take a benevolent interest in their former profession, and are invoked when a goat falls sick or is lost; Bír Singh and Jammu Dánu are the sprites of two remarkable Dánpuris; Látu Bálchan and Acheri.

Marriage.

The Bhotiyas, as a rule, are more particular in their marriage observances than in their other ceremonial usages. Strange as it may appear, all through the Bhotiya tract, the inclinations and will of the female appear to have greater weight than is common in the east, both in regard to the formation of such engagements, and in the subsequent domestic management. Contracts are formed at an early age, but the marriage is not commonly concluded till the parties arrive at

[1] Gaz. XI. 816. [2] *Ibid*, 783. [3] *Ibid*, 335 [4] *Ibid*, 833. [5] *Ibid*, 831.

maturity. Should the female in the meantime make a choice for herself, the previous contract is compromised by the payment of a sum of money. The consideration given by the bridegroom to the father of the bride varies from three hundred to one thousand rupees: a corresponding portion is returned, which consists of domestic stock, live and dead, and in some of the ghâts is considered as the property of the wife, by whom it is managed for her own benefit. The females are chiefly employed in weaving blankets and coarse serges, but they will not work in any company except that of their nearest female relatives; even an aunt and a niece will not work together. The produce of their looms is, in a great measure, at their own disposal. The Bhotiyas construct a house called Rambáukuri, in which marriages are arranged. Such buildings are generally shared by several villages and are placed at a spot about a mile or half a mile distant from each. Such bachelors and maidens as wish to marry resort there without either relatives or chaperons. They remain there together some twenty to thirty days, taking their meals in company. At the end of that time, a man engages himself to the partner who has pleased him best, and the happy pair go home, assemble their relatives, call in the priest, and are married. During their residence at the Rambáukuri, the pair sing amabæan songs together. If the woman conquers in the vocal contest, she takes the man off to her house and marries him there; if, on the other hand, the man gains the victory, they are married at his house. This custom of the Rambáukuri is less common in Juhár and Byáns than in Dárma. In none is child marriage the fashion. But a person whose star was in the Lion at his or her birth is not allowed to marry a person whose star was in the Goat at his or her birth. Except amongst the Brahman Bhotiyas there is no objection against the second marriage of widows, whether the widow has children by her first marriage or not. Children by a first marriage who follow the mother to her second husband's house lose their paternal inheritance, but are entitled to succeed to their step-father's property equally with their step-brothers of the second marriage, his children. If a woman desert her husband and goes to live with another man, her husband takes from that man the costs of a second marriage; the woman is thereby divorced from her first husband and becomes the wife of her

seducer. If she, in turn, deserts the second man for another paramour, he can take from the third man the costs of a marriage, and the woman for the third time changes husbands. But some injured husbands renounce their rights to take the costs of a second marriage from the seducer of their wives and refuse ever afterwards to see their wives again. Under such circumstances the woman is considered to be divorced as regards her husband and to be married to the co-respondent. But the marriage is held to be of an inferior kind resembling the *sagái* of the plains, and is sometimes, indeed, not considered a marriage at all.

The relatives of a widow's first husband receive a sum of money (varying in amount, but never above Rs. 200) from the second husband upon her re-marriage, and if her first husband left no kinsmen, her parents take this fee. If there are no parents, it is taken by the widow's maternal uncle and son, it being arranged that the unlucky bridegroom must pay the fee to some one. All this happens if the widow is given away or sold to her second husband. Where she chooses a second husband for herself no fee is paid. The ordinary course for a woman when her husband dies is to go and live with her deceased husband's younger brother as his wife. If the younger brother is too young for matrimony, she generally looks out for another husband or is sold to another by her kinsmen, as already described. There are, however, some widows who shave their heads after the death of their husbands and go on pilgrimage, and never marry again. It should be mentioned here that what has been written about the remarriage of widows amongst the Juhári Sokpas applies equally to the re-marriage of all the ordinary Khasiya Rájputnis and other low-caste women in Kumaon.

Funeral ceremonies.

Where a parent dies, the Juhári Bhotiya abstains from flesh and other rich food for ten or twelve days. On the anniversary of the death, however, instead of the usual *srádđha* ceremonies he performs what is called *dhorni*. A gash is cut in the neck of a young male buffalo, who thereupon, of course, runs away; he is pursued and ultimately killed with sticks, stones, and knives, and any one who pleases may eat of his flesh. The mourner then gives clothes or cooking vessels to his Brahman directors, usually Dobediyas or Bhatts: for, in the hills, there

are no Mahábrahmans, and their place is taken to a great extent by the lower classes of Brahmans. Bhotiyas of the better class sometimes think it necessary to abstain from flesh for a year after the death of a father, mother or elder brother, and to abstain from curds for the same period if a father dies, and from milk if they are mourning the loss of a mother. But this practice is by no means universal, and most Bhotiyas adopt the more sensible course, for their work and climate, of limiting the actual period of fasting to ten or twelve days. In Garhwál, they collect the bones of a deceased parent that remain at the pyre, and within the year convey them to a pool near the Satapanth glacier above Badrináth and throw them into the water. To them this water has all the virtues of Gya, the great *Sráddha-tirtha* of the plains. It is also customary in Garhwál that a widow on the death of her husband abandons all her jewellery and finery and wears only the *bharela* and a blanket until she takes another husband. Similarly the husband, on the death of his wife, abandons the *langoti* or *dhoti* until he takes another wife.

Customs of Dárma.

The Bhotiyas burn their dead. In Dárma, it is the custom, no matter when the death occurs, to perform the funeral ceremonies in Kárttik only. On the occasion of a death, the heir of the deceased is expected to entertain the whole of the brethren and is consequently impoverished by the extravagant expenditure indulged in. A number of goats and yaks, according to his means, are sacrificed at the pyre; of the latter animals one is selected for the particular service of the deceased, and is previously led about with many ceremonies, adorned with flowers and laden with cloth, sugar, spices, and such articles; precedence in the sacrifice is also given to it, and the decapitation is performed by the son-in-law, or some other near relation to the deceased. In the selection of this yak the departed spirit is appealed to, and its choice is supposed to be indicated in the animal which is the first to shake its tail when the stall is inspected by the heir. The Bhotiyas universally profess extreme veneration for the *manes* of their forefathers; small monuments to their memory are numerous in the vicinity of villages, generally on the summit of some height; distinguished individuals are further

honored by images of silver or stone, and by the annual celebration of festivals, on days dedicated to the purpose, when the image is carried in procession about the village, and receives offerings and worship. Among the Dárma Bhotiyas, when an individual dies absent from his native village, a clue of worsted is conducted to it from the spot where death occurs. In families of consideration the thread is extended unbroken throughout; by the poorer classes, it is only laid, in cases of considerable distance, along difficult parts of the road; the object of this superstition is to enable the departed soul to join the spirits of his ancestors. *Satís* occasionally took place in Juhár in former times.

Agriculture.

As already noticed, the Bhotiyas place little reliance on the products of the soil as a means of livelihood. The cultivated land in the upper pattis yields but one harvest in the year. The soil contains much vegetable matter washed down by the melted snow and is of a dark colour. It would, however, appear to require considerable quantities of manure to render it productive, and the surface of the ground is further encumbered with stones and boulders, which render its cultivation laborious and difficult. The local produce is insufficient to supply the Bhotiyas with food. For grain they have to depend in a great measure on their winter habitations in the more southern pattis. In the richest and best watered lands, barley there returns a yield of from twenty to forty-fold according as the temperature may be affected by the nearness to the snows. In poor, unirrigated, lands three to six-fold is the average. Sowing takes place in Chait-Baisákh and the harvest in Kuár-Kárttik. The principal other crops are *kotu* or *ogal* or *pálti* (*Fagopyrum esculentum*); *pháphar* or *bhe* (*F. tataricum*) and *chúa* or *márcha* or *mársa* (*Amaranthus frumentaceus*), and in the upper parts *pháphar* only which does not require irrigation, and yields from thirty to forty-fold. Turnips (*chaukan*), leeks, and potatoes are the only vegetables cultivated; of those growing wild, the rhubarb is somewhat inferior in its color and properties to the Turkey, and the Bhotiyas do not take it inwardly. It is used in the form of a powder for bruises, and with madder and potash as a red dye. Madder (*manjít*) is abundant, but does not form an article of commerce. Apricots and peaches have been introduced by the

Bhotiyas, but they do not attain to any size or flavor. The forests in the south and least elevated parts afford timber common to the other parts of the province. Deodár to the south, horse-chestnut, red rhododendrons, oaks and pines attain a large size. To these succeed white rhododendrons, king pine, yew, juniper, and on the verge of perpetual snow, birch and the goat-thorn (*dáma*). The bark of the birch is used for paper and other domestic purposes and is exported to the plains and the twigs of the juniper are used in the preparation of yeast (*balma*). The following list gives the local names of the commoner trees and plants : see further, however, the account of the forests in the first volume :—

English names.	Hindi and Bhotia name.	Scientific name.	Remarks.
Lofty pine ...	*Ráisalla*; Bhotiya *lamshing, lim.*	Pinus excelsa.	
Webb's fir ...	Bhotiya *woman* ...	Abies Webbiana.	
Cypress ...	*Saru*; Bhotiya *tangshin lim.*	Cupressus torulosa.	
Yew ...	*Thuner*; Bhotiya *nhára* (Byáns) *lúet* (Juhar).	Taxus baccata.	
Birch ...	*Bhoj*; Bhotiya *Shakshin,*	Betula bhojpatra	
Rhododendron...	*Buronj, búráns*; Bhotiya *takshin.*	R. campanulatum.	
	Poh (14,000 feet) ...	R. anthopogon ...	Used as incesne in Tibet.
Bambu cane ...	*Ningála*; Bhotiya *kwey,*	Arundinaria falcata.	
Sycamore ...	*Kamiya*; Bhotiya *kánshing.*	Acer caudatum.	
Walnut ...	*Akhrot*; Bhotiya *kasshin.*	Juglans regia.	
Goats thorn ...	*Dáma*	Caragana pygmæa	
Cedar ...	*Deodár* ...	Cupressus deodara.	
Ground cypress,	*Parpinja, padma* (Niti): *Churpunja* (Mána): *lhála* (Byáns), *chichiya* (Milam).	Juniperus communis.	
Juniper ...	*Padbank*; Bhotiya *páma* (Byáns), *bil* (Milam)	Juniperus recurva.	
Ground raspberry	Bhotiya *sinjang,* fruit *sinjang lho.*	Rubus nutans ...	Orange fruit.
Barberry ...	*Chot'a*; Bhotiya *kachishin*	Berberis aristata ...	Worthless.
Litter willow ...	Bhotiya *tat'wa-chak* ...	Hippophäe rhamnoides.	Yellow acid berries.

English name.	Hindi and Bhotiya name	Scientific name.	Remarks.
Gooseberry ...	*Lepcha*; Bhotiya *galdam* (Byáns), *sirgochi.*	Ribes grossularia ...	Worthless (10,000 feet).
Crab apple ...	*ban-mehal* ...	Pyrus baccata ...	Ditto.
Currant ...	(Red) Bhotiya *mángle* (Byáns) Bhotiya Dongole (black) *durbui.*	Ribes glaciale ...	Small in sipid.
White dog-rose, red.	Hindi and Bhotiya *gorsephala.*	Rosa serica ...	Large hips.
	Sephala ...	R. Webbiana.	
Orchis ...	Bhotiya *phung* ...	Satyrium nepalense ...	Pink flowers; roots eaten.
Viburnum ...	*Gúiyah* Bhotiya *kotoble.*	V. cotinifolium.	
Monk's wood ...	*Nirbisi*; *atís* (14,000 feet.)	Aconitum heterophyllum.	Root used in medicine.
Wormwood ...	Bhotiya *pankima* ...	Artemisia.	
Wheat ...	*Gehún*; Bhotiya *náphal.*	Triticum vulgare.	
Celestial barley,	*Najan*; Bhotiya *chámar*	Hordeum himalayense.	
Barley ...	*Jau* ...	H. hexastichylum ...	Red flowered.
Buckwheat ...	*Ogal*; Bhotiya *palti*...	Fagopyrum esculentum.	Yellow ditto.
	Pháphar; Bhotiya *bhe,*	F. tataricum ...	Red.
Amaranth ...	*Chúa-mársa* ...	Amaranthus frumentaceus.	White.
	Kedári-chúa ...	A. caudatus.	
Turnip ...	*Shalgam*: Bhotiya *chankan.*	Brassica rapa.	
Tobacco ...	*Tamáku* (Byáns) ...	Nicotiana tabacum.	

"The operations and implements of husbandry," writes Traill,

Implements.

"present no novelties; the ploughing commences as early as the melting of the snow will admit, and the sowing is commonly completed by the first week in June. By the middle of September the crop is ready for the sickle; to this period the irrigation of the wheat and barley is continued, the streams of melted snow being directed for that purpose whenever available. Severe winters, attended with heavy snows, prove more or less injurious in their consequences to the succeeding crop. The Bhot villages are all situated on the northern side of the great chain of Himálayan peaks, and are all, in some degree, subject to the influence of its snows and of its shade.

By any unusual accumulation of snow on the summit the inferior bed is forced down, and with it, the influence of, if not the line of, perpetual congelation itself, descends ; those villages which are contiguous to the peaks, and are unsheltered by intervening heights, suffer severely from such occurrences, as it sometimes requires the heat of more than one summer to throw back the snow to its former level. The village of Laspa, in the Juhár pass, has been rendered wholly unproductive during two years by an accident of this kind. The Bhotiyas of Dánpur, Juhár, Dárma and Byáns have a peculiar way of cutting their wheat and barley. They nip off the ears with a kind of shears called *runya*. Their cattle are then driven in to eat down the stalks and the men tread out the corn themselves, and do not employ bullocks for the purpose.

History.

We have already stated that language, physical traits, customs, and tradition all assign to the Bhotiyas a common origin with the people of Hundes. In all except the Dárma parganah the Bhotiyas trace their origin to some village in Tibet. The story of the colonisation of Juhár has been noticed and their Sokpa origin determined. The people of Dárma, though equally of Tátarian origin, are said traditionally to be of a different race, who entered the hills from the plains. According to Traill, they are considered to be descendants of a colony of Mughals who were left to secure possession of Kumaon after its subjection by Tímúr. This force, thinned by disease and the sword, ultimately retreated to Dárma, and there made a permanent establishment. Tímúr, however, never approached Kumaon nearer than Hardwár, and his stay there took place in 1398 A. D., a time for which we have fairly accurate traditions, none of which refer to the conquest of eastern Kumaon. It is said also that the local rule of these Mughals lasted for twenty years, and that to them we are to attribute certain remains at Dwárahát and Bágeswar consisting of rude tombs constructed with large flat tiles. Similar remains are found further west in Kulu, and have already been noticed,[1] with the result that we cannot connect these remains or the Dárma people with a colony left by Tímúr. The Dárma Bhotiyas also repudiate this story, but from difference in language, customs, and appearances they undoubtedly belong to a tribe from Tibet

[1] Gazetteer, XI. 512 ; the Dárma Bhotiyas are probably Khampas and not Sokpas.

other than that to which the other Bhotiyas belong. The Bhotiya mahals belonged to Tibet up to the time that Garhwál became consolidated under the chiefs of Srínagar and Kumaon under the Chands. Báz Bahadur Chand[1] reduced Juhár in 1670 A. D., but it was not until the Gorkháli administration that Dárma was wrested from Jumla of Nepál and annexed to Kumaon. But in becoming subjects of the cis-Tibetan States, the Bhotiyas were by no means drawn from their allegiance to the parent state, but still continued to acknowledge the supremacy of both : an anomalous state of subjection which their paramount interests in continuing to be the medium of commercial intercourse between India and Tibet tends to perpetuate. One of the first acts of our Government was to surrender all dues on trade which amounted to a considerable sacrifice of the revenue hitherto paid by the Bhotiyas, and the taxation which they are now called on to pay is comparatively trifling. But the Tibetan authorities have from time immemorial subjected the trade to regulations and restriction of all kinds, nor is their interference limited to the imposition of customs-duties. A remnant of the old state of things when the Bhotiya valleys were subject to Tibet is kept up in the Tibetan demand for dues other than customs-duties, which, though insignificant in amount, are held to be an acknowledgment on the part of the Bhotiyas of their subjection to the parent state. Before the establishment of a strong government in Kumaun and Garhwál, the authority thus exercised by the Tibetan Government was by no means only nominal. The former Hindu Governments in these districts were, with few exceptions, weak and unstable, consequently the Bhotiyas were the less inclined to resist the orders and the demands of the Tibetan authorities, and the taxes paid by them to the foreign Government were formally recognised by their Hindu rulers in both districts. Since the British conquest of these districts no notice of the matter has been taken by the British Government, but the Bhotiyas have gradually become more and more independent of Tibet, and more obedient to their European rulers, attaching themselves, as might have been expected, to the stronger side. There can be no doubt, too, that the Huniyas are quite aware of the inexpediency of any active interference in the concerns of British subjects.

[1] Gaz. XI., 567.

Taxation.

The dues collected by the Tibetan officials as revenue, acording to Traill, consist of "*Sinh thal*," land revenue; "*Ya thal*," tax on sunshine; "*Kún thal*," tax on the profits of trade. These items are all levied at fixed and invariable rates. The "*Sinh thal*" is assessed at twelve "*polas*," of *gúr* per *konch*, on the lands assessed to revenue, but as a great portion of each village is held revenue-free on former grants, the aggregate payments under this head are very trifling. The "*Ya thal*," which from its name, has probably originated in the migratory habits of the Tátars, who, during the winter, remove to the warmest situations, is assessed at one cake of "*balma*" or dried yeast per house. The above dues are collected by Tibetan officers, who visit the passes with that view: the whole is received in kind, though the *gúr* and yeast are partly commuted for sugar, grain, spirits, and coarse calicoes. The *Kún thal* is levied in the shape of transit duties, and "*Kún kal*" at the rate of ten per cent. on grain. These are also collected in kind, at the first mart visited by the Bhotiyas, the loads of every tenth sheep, together with the wool on its back, are there taken, unless commuted by the payment of twenty-seven "*polas*" of *gúr* per sheep. Duties are also levied on some few articles, agreeably to the rates fixed by an ancient tariff; commodities not included in that schedule pass free. Broadcloth and many articles, the exportation of which from hence commenced at a comparatively recent date, fall under the last description. In some cases individuals are subjected to a tax called "*huro*," or plunder, substituted for the "*Kún kal*," or transit duties, and levied at nearly the same rates. This, from its name, should be a species of police tax, an insurance against robbery. The inhabitants of the northern village at the head of each pass enjoy certain immunities from these duties, and are, moreover, authorized by the trans-Himálayan government to levy a transit duty of ten per cent. on the salt or borax of the Tibetan traders visiting the pass. This duty, as well as the "*Kún kal*," paid by the Bhotiyas, is levied only on the first investment of each trader during the season.

In matters of police, the Bhotiyas are held responsible for the communication to the neighbouring authorities of all important transactions which may occur in their villages. The local tribunals

take cognizance of all cases brought before them by the Bhotiyas, whether originating in Hundes or elsewhere. In civil proceedings, the decrees of the court written in the Tibetan character and language, and sealed by the presiding officers, are delivered to the successful parties. A confirmation of these documents where they affect general interests, as also of grants exempting lands from public assessment, are obtained by the parties concerned from succeding governors. It does not appear that this Government ever originates any inquiry into crimes or offences committed by the Bhotiyas elsewhere than in Hundes; nor does it delegate any power, judicial or fiscal, to the Bhotiya village functionaries. Such are the marks of subjection which the mother country continues to demand from the Bhotiyas. Those exacted by their Hindu conquerors have ever been more costly and more extensive. The Bhotiyas continue to pay their taxes according to the old custom, but they do so in a great measure because the dues are not sufficiently onerous to be worth quarrelling about and the supremacy of the Tibetan government is now almost entirely nominal. I do not speak of the duties levied on trade, which stand on an entirely different footing.[1]

Trade jealousy.

It has, however, always been the policy of the Bhotiyas to profess to all Europeans, and indeed, to, people generally with whom they may have dealings, the greatest dread of the Tibetan authorities, and to declare the constant fear they are under of having their trade stopped on which their whole means of subsistence depends, should the slightest infringement of the regulations and orders of the Tibetan Government take place. It has generally been taken for granted that these statements were perfectly true, and until a short time ago it seems never to have been suspected that the fear of losing their monopoly had much to do with these representations. It was with the greatest difficulty that a European traveller could obtain even the slightest glimpse of Tibet, and even our Kumaon officials were troubled with the fear of ruining the people who showed them the way into the forbidden country, a feeling which proved a stronger defence against 'the foreign devils' than the jealousy of the Chinese government. The utter mistake of such ideas is shown sufficiently

[1] Cal. Rev. *l. c.*

by the experience of several Europeans who, the Bhotiyas knew, could not be trifled with. These have marched into Hundes not only without concealment, but with large camps accompanied by the heads of the Bhotiya villages who supplied all the carriage and supplies, and in defiance of the orders of the Tibetan authorities given by them in person. The real fact is that Hundes is so utterly dependent on India for its supplies that the authorities there will never, without the most absolute necessity, do anything which might endanger the trade on which their subsistence depends, and they are perfectly aware of the immense power over them which this fact gives to our government and the people of our districts. If the passes were ever closed by us for a single season there would be a famine in Tibet.[1]

Trade.

In 1815 Dr. Rutherford, who had charge of the Company's investment in Moradabad, proposed his deputation[2] to Tibet with a view to open up the trade between the Company and the natives of that country. Hitherto very little had been known regarding the consumption of European products and manufactured articles within the hills. It was believed that the hill people purchased the woollen cloths and cottons of English manufacture for their own consumption, and acting on this view, every effort was made to extend the trade. It was advised that the more prudent course would be to endeavour to open a trade by seeking a convenient mart in the first place at Almora and making use of the Bhotiyas as carriers only. Further inquiry showed that the wares purchased by the Almora merchants at Káshipur were bartered to the Bhotiya carriers who disposed of them at Gartoh and other places in Chinese Tibet. Thus four sets of profits were made before the goods reached the actual consumers. This so enhanced the price that, coupled with the badness of the roads and the restrictions placed on the trade by vexatious taxation and the oppression of the rulers and their officers through whose dominions the consignments passed, in 1815, it had become very inconsiderable, and when further and more accurate information became available, it was resolved that no further steps should be taken to open up direct intercourse.

[1] Cal. Rev. *l. c.* [2] To Government, 25th May, 1815. To Commissioner, 6th June, 1815.

Bhotiya trade.

It has been already mentioned that the principal occupation of the Bhotiyas is the carrying trade into Tibet. Of this they possess almost a complete monopoly which they jealously guard by every means in their power. The poverty and the want of enterprise of the merchants of Kumaon and Garhwál, the difficulties to be overcome in crossing the passes without the assistance of the Bhotiyas, the total absence of tolerable roads, and perhaps more than all the force of immemorial custom, have hitherto prevented any serious attempts towards the abolition of the Bhotiya monopoly. Under the present system no considerable increase of trade can be looked for, for the means of the Bhotiyas are quite insufficient for carrying on a much more extensive trade than the present. But it may be doubted whether if the monopoly of the Bhotiyas were abolished and the jealousy of the Tibetan authorities towards every innovation were to cease the trade could receive any very great increase, and it seems probable that under the most perfect freedom of intercourse it must remain insignificant. The greater part of the country immediately to the north of the Himálaya is almost uninhabited, and the small population which exists is generally in a state of such abject poverty that any great additional consumption of either the necessities or the luxuries of life seems almost impossible, and nothing but a great demand in the Tibetan districts adjoining India can possibly lead to any considerable increase of trade between the two countries. The agricultural productions of Hundes being utterly insufficient for the support of its inhabitants, the country almost entirely depends for its supplies on India. Grain being the greatest necessary to the Huniyas forms the chief article of export from our districts. The greater portion of this demand is met from the surplus produce of the upper Pattis that lie to the south of the snowy range. The exports next in importance are coarse cotton cloths, broad-cloth, sugar and its preparation known as *gúr*, &c., hardware, tobacco, spices, rupees, corals, and beads. The principal imports are borax, salt, gold-dust, and wool. Borax was formerly a much more profitable investment than it now is. The great European demand for this mineral was formerly in a great measure met by the Tibetan trade, but the discovery of the *lagoni* of Tuscany, and the immense development which European and American science has given to

the manufacture of borax from boracic acid has greatly curtailed the demand, but still the borax trade exists and is sufficiently considerable to render it of prime importance to the Bhotiyas. In a former volume some account has been given of the country in which the borax is found. [1] Very little borax is consumed in these districts, so that the whole of the imports are carried to Najíbabad or disposed of at Rámnagar, and there prepared for export to Farukhabad, Calcutta, and Europe.

Barter.

The salt is for the most part exchanged for grain in the upper pattis, but here, too, it has to bear the competition with the duty-paid Sámbhar salt, and the conflict is simply settled by the distance and the advantages accruing from a system of barter where coin is scarce. This branch of the trade between the Bhotiyas and the people of the lower hills is remarkable for the uniformity and unchangeableness of the system on which it is carried on. The total absence of roads and bridges and of economical means of transport renders it very difficult to engage with advantage in any mercantile speculation in these districts. None of the parties engaged in this trade can venture to leave the beaten track in hope of greater profits, so that it is quite impossible to choose from time to time the best market according to the variation of prices in different parts of the country, and all must be contented as much from the comparatively smallness of their individual transactions as from any other cause, to dispose of their commodities to their neighbours and customers according to whatever may be the established custom of the place. It is not until towards the end of June that the snow melts sufficiently to enable the Bhotiyas to cross the passes into Hundes. During this and the preceding month the grain is carried from the lower hills to the Bhotiya villages. A large quantity is also delivered there in these and the succeeding months by the inhabitants of the upper pattis; the whole being carried on sheep and goats precisely in the manner that is followed by the Bhotiyas. These

[1] Gaz. X., 293. Both the borax and the salt are procured in the same way by working the earth taken from the ground in which they occur by lixiviation. These salt fields are open to all who choose to adventure their labour in them on the payment of a tenth of the produce to the State representative, who has an excise establishment on the spot for its collection.

carriers barter their grain for salt at the villages not being allowed to enter Hundes. From June until October the grain is carried across the passes, and borax and salt comes back, the principal men remaining in Hundes to superintend operations, whilst the women and children remain at home and look after the fields. In the Juhar valley there are three depôts for the convenience of trade; one in the Bhot valley whence they bring all their goods to Munshiyári before they carry any futher down, and which forms the second depôt. On leaving Munshiyári they generally form depôts at Tejambugr, Sera, Gangoli, or other places where their families reside during the winter. Many erect temporary shelters; and while the women are occupied in weaving blankets and tending the ewes and cattle, the men carry the borax to Bágeswar and Rámnagar, or barter the salt in the villages. Old and infirm persons occasionally prefer passing a winter of imprisonment in the Bhotiya valleys rather than endure the fatigue of the journey down: in these cases a sufficient stock of provisions is left with them, whilst the water is furnished in abundance by the snows in which they are buried. The Bhotiyas of the Garhwál passes purchase their grain as low down as Dhanpur and Lohba. The grain purchased at a distance is in the first place transported to Joshimath or thereabouts and stored: that purchased near their winter encamping grounds is first brought home and then that more distant, so that all arrives about the end of July when they cross the passes. Of late years the Bhotiyas have been accustomed to contract with Nágpur and Dasoli men to bring up their surplus stores of grain paying in salt and wool, which form a load for the return journey with the result that the number of these intermediate carriers is increasing; other men perform a similar duty in Kumaon. The Bhotiyas of Byáns and Dárma dispose of their borax at Dhárchula, Champáwat, and Barmdeo and the Juháris at Bágeswar and Rámnagar. The Garhwál Bhotiyas usually sell at Nandprayág but many also proceed to Rámnagar, which is the great centre of the refining operations. The Byáns Bhotiyas trade with Taklakhar: the Dármiyas and Juháris with Tara, Misar, Gyanima (or Gyanip), and Gártoh: the Níti people with Daba and Shib Chilam, and the Mána people with Toling. By the Nilang pass the trade is carried on by

Basáhiri Khampas and Jádhs of the Nilang valley with Tsaparang or Chaprang.

Opening of trade.

The village in each Bhotiya district nearest to the pass and, which is also usually the most considerable in the valley enjoys various privileges and immunities from taxation, in return for which assistance is expected by the Tibetan authorities in carrying out their regulations regarding the Huniya merchants who may cross the passes to the Bhotiya villages. The opening of the commercial season is carried out with some ceremony. The first step is taken every year when the passes into Garhwál become practicable in the beginning of June by the Tibetan authorities. An agent is sent to each of the Bhotiya valleys from the officer charged with the superintendence of commercial affairs. It is the business of this agent, who is known by different names in the different districts, to inquire into the state of affairs in India and to make his report to his own superiors. Politics appear to be matters of much less importance than the state of the public health, and the presence of small-pox or other contagious diseases in the Bhotiya valleys alone causes a temporary interruption of intercourse. If the report of the Tibetan envoy be satisfactory, the trade immediately commences by the deputation of representatives of the Bhotiyas with offerings and tribute. Each village has a distinct kind of offering, thus Níti being nearest the pass has only a nominal one, whilst another has to furnish the green tops of certain fir trees used by the Huniyas at festivals. Juháris pay one cake of coarse sugar for every twelve families, and a piece of coarse cloth equal in length to the breadth of every piece they export. The people of Dárma and Byáns pay a tenth of all grain taken in barter, whilst those residing not so close to the frontier pay two *timáshas* each. In Kumaon, the agent is accompanied by a single follower, and bears with him certain presents, and makes his report to the Huniyas. This is taken down in writing and transmitted to Gartoh, and if approved of the passes are declared open. The Bhotiyas then return with a present in gold-dust equivalent to the value of the things brought by them accompanied by a Huniya official, on whose verification of the statements made by the Bhotiyas the opening of the passes depends.

With the exception of Juhár,[1] the inhabitants of which are privileged to choose their own markets, the trade of each of the Bhotiya valleys is confined to some particular mart in Hundes, and most minute regulations are laid down in each case for the management and control of the traders. It seems wonderful that under the strange system of monopoly and restriction that exists, the trade should ever have reached even its present importance. Neither the Tibetans nor the Bhotiyas seem to distrust the wisdom of the existing regulations, and any infringement of them is viewed with great jealousy, though, perhaps, with different motives on both sides. One of the most curious parts of the whole system is that by which the dealings of each individual trader are controlled.

Traill writes :—"The commercial operations of the season usually commence by the arrival of the Huniya traders in Bhot, as the superior strength and hardihood of their sheep enable them to cross the snow earlier than the Bhotiyas; from this period (about the end of July) till the middle of October the flocks of both parties are employed in plying with loads between the pass villages and the marts." The Mána Bhotiyas, however, usually trade for cash, and those of Kumaun barter their Tibetan products for goods for the export trade. The Huniya traders do not usually visit any villages below the passes, but in Garhwál they come in large numbers to Niti, and a few find their way down to Hardwár and Rámnagar. On the Dárma side they visit Barmdeo. The landholders of the northern parganahs who transport their own produce into Bhot are deterred from proceeding into Hundes, and even in Bhot they are precluded from dealing directly with others than the Bhotiyas. The men of Dasoli in Garhwál sometimes visit Daba, and a few Nágpuris find their way to Chaprang, but the Bhotiyas are still the middlemen in all Garhwál.

"A few of the Almora merchants occasionally visit the nearest marts in Hundes, more particularly Taklakhar, at the head of the Byáns pass; but their ignorance of the Tibetan language, and their want of the means of carriage, render them dependent to a great degree on the Bhotiyas, and prevent them from trading in those articles of bulk, such as grain, *gúr*, &c., which afford the most certain and profitable returns. The Bhotiyas consequently enjoy to a great extent a monopoly of the carrying trade from Hindustan to Tibet in the supply of the local demands in Hundes, and the system in force there operates to confirm a complete monopoly. The regulations which restrict the trade of each pass to a prescribed mart affects the inhabitants of the latter equally with the Bhotiyas; this system is further extended even to individual dealings, and every trader has his privileged correspondent, with whom he alone has the right to barter. These individual monopolies, if they may be so called, are considered as hereditary and disposable property, and where the correspondent

[1] The Juháris have the further privilege that their headman is furnished with two ponies and all necessary supplies at each camping place free of cost whenever business brings him to Tibet.

becomes bankrupt, the trader is under the necessity of purchasing the right of dealing with some other individual. From successive partitions of family property, and from partial transfers, this right of *árath* has been gradually subdivided, and many Bhotiyas collectively possess a single correspondent. This system differs so from that of the Hong merchants in China, that it leaves to every Huniya the power of trafficking directly with the foreign trader, though it restricts his dealings to particular individuals; the only persons who appear to be exempt from its operations in Hundes are the local officers, civil and military, and the Lámas. On the dealings of foreign merchants with each other it has no effect. Besides the Bhotiyas, pilgrims occasionally cross the passes to visit Kailás and the Mánasarowar lake."

Tibetan trade custom.

This quotation, however, does not in one point state the facts quite correctly, for it implies that each Bhotiya can only have a single correspondent. New *áraths* can be established, but not to the prejudice of the old ones. It is always arranged what amount of commercial transactions shall be carried on; and if one of the parties wishes to extend his dealings no objection is made to his doing so and to establishing new *áraths* with other persons, an equally stringent agreement being necessary in every case. The Bhotiyas alone possess the privilege of selling or transferring their correspondents, the Huniyas having no such power of disposing of their Bhotiya correspondents. Suits arising out of this strange custom are sometimes brought before our civil courts. In a recent case one Bhotiya sued another for the exclusive right to trade with a particular Huniya. Neither party ever referred in the slightest degree to the wishes of the Huniya who was thus to be disposed of, and it was evident that his acquiescence in any decision arrived at was regarded as certain. The officer who tried the case met the very man shortly afterwards, who humbly expressed a hope that he should not be transferred to the person who instituted the suit. Strange as such cases must appear, it is necessary that our courts should listen to them, for neither Huniyas nor Bhotiyas seem to doubt the excellence of their system, and the only result of refusal would be to drive them into the courts of the Zangpuns of Hundes. The principal part of the trade between the Bhotiyas and the Huniyas is carried on by barter, and almost every article is furnished by the Huniyas agreeably to an assize held at a remote period. The Bhotiyas of Juhár boast that they are the descendants of the traders who procured the fixation of prices by the govern-

ment of Lhása. As a necessary consequence of the limitation regarding persons with whom the Bhotiyas may trade, there is a limitation also as to places, and each valley has its own mart.

Trade statistics.

The rate of exchange usually obtaining in Hundes is eight *páthas* of unhusked rice for twenty of salt or seven of cleaned rice for the twenty of salt. Some account of the weights and measures in use will be found under this head in the notice of KUMAON. We shall now proceed to give the trade statistics which were first recorded in 1876-77 by establishing posts at Pandukeswar for the Mána pass, Tapuban for the Níti pass, Milam for the Juhár pass, and Dharchula for Dárma and Byáns. In 1878-79 a post was established to control the Nilang pass in Tíhri. The gross value of the traffic for the last six years, excluding that by the Nilang pass, has been as follows:—

	Exports. Rs.	*Imports.* Rs.		*Exports.* Rs.	*Imports.* Rs.
1877-78 ...	94,924	3,09,507	1880-81 ...	1,46,882	3,84,170
1878-79 ...	1,13,016	2,38,073	1881-82 ...	1,88,660	3,92,301
1879-80 ...	1,64,880	3,26,259	1882-83 ...	1,94,303	3,43,932

Exports.—The cotton cloth exported is chiefly of the coarser Indian and European manufacture. The export of piece-goods is chiefly through Juhár and the same parcels contain small amounts of European broad-cloth, pearls, and coral beads. The following shows the weight in maunds of 82lb. each, and value of cotton and woollen cloths and miscellaneous articles exported:—

	Weight. Mds.	*Value.* Rs.		*Weight.* Mds.	*Value.* Rs.
1877-78 ...	305	12,674	1880-81 ...	438	23,889
1878-79 ...	262	18,455	1881-82 ...	462	24,823
1879-80 ...	417	19,409	1882-83 ...	496	28,750

The export of European cloth was only 25 maunds in 1876-77, 199 maunds in 1878-79, 25 maunds in 1879-80, and 30 maunds in 1882-83. Traill estimated the value of the exports of cotton stuffs up to 1821 at Rs. 10,000 a year. In 1840 the exports by Juhár and Dárma were valued at Rs. 14,000. The export of grain is principally through the Kumaon passes and consists chiefly of the cheaper mixed spring crops—wheat and a little rice. In 1876-77 the recorded

Grain.

export was 28,000 maunds, and for succeeding years the figures are :—

	Weight. Mds.	Value. Rs.		Weight. Mds.	Value. Rs.
1877-78 ...	28,166	49,151	1880-81 ...	43,330	97,334
1878-79 ...	34,646	74,276	1881-82 ...	46,796	1,18,584
1879-80 ...	39,289	1,16,919	1882-83 ...	62,416	1,35,870

Up to 1822, Traill estimated the average annual export at 20,000 maunds. In 1840, Batten estimated the exports by Juhár at 9,000 maunds and by Dárma at 12,000 maunds. The returns of the last year are noticeable for the large increase in the export of grain, which was accompanied by a decrease in the imports of borax and increase in the imports of salt. The total trade with Tibet is only seven per cent. of the foreign trade of the North-Western Provinces with Tibet and Nepál. In Hundes the Bhotiyas obtain two parts of borax or salt for one part of fine grain and one and a half to one and a quarter parts for one of coarse grain. Oil and oil-seeds are also exported, the former chiefly through Juhár and the latter by Nilang.

Sugar, &c.

The export of sugar, chiefly unrefined, forms a great portion of the traffic by the Dárma and Byáns passes. For all, the figures were in 1876-77, 5,560 maunds, and for succeeding years as follows :—

	Weight. Mds.	Value. Rs.		Weight. Mds.	Value. Rs.
1877-78 ...	7,561	23,068	1880-81 ...	3,437	19,818
1878-79 ...	1,868	12,067	1881-82 ...	5,559	42,410
1879-80 ...	5,178	23,437	1882-83 ...	3,814	23,954

Traill estimated the export of *gúr* up to 1822 at 1,000 maunds a year and of refined sugar at 100 maunds. In 1840 the exports by Juhár and Dárma were estimated at 12,000 *belis* of *gúr* and 90 maunds of refined sugar. During the same year the export of dates, almonds, cloves, red-pepper, nutmegs, cardamoms, and camphor by Juhár amounted to 106 maunds, valued at Rs. 3,600: miscellaneous commodities, such as penknives, buttons, crockery, and the like, 900 maunds, valued at Rs. 12,000: indigo 5 maunds, valued at Rs. 500: pewter and sal-ammoniac 2 maunds, valued at Rs. 150: broad-cloth valued at Rs. 17,000: moleskin and other European cloths, valued at Rs. 4,000: *kharuwa* cloth, country

made, valued at Rs. 3,000: pearls and coral beads at Rs. 2,300: tobacco 200 maunds, valued at Rs. 2,000 and betel-nut 5 maunds, valued at Rs. 200. In Dárma 150 maunds of tobacco were exported valued at Rs. 1,500. Wooden vessels, chiefly cups for tea, are also in considerable demand in Tibet. These are made from the knots of the *Acer caudatum*, called *kan-shin* by the Bhotiyas of Byáns, and the cups are known as *lahauri-doba*, whilst a better class made from the knots of the *Acer oblongum* (called *patangliya* or *kirmoli* on the Gágar range) are known as *taluwa-doba*. A small quantity of tea has been exported from time to time, but as this consists of only the inferior kinds, the Huniyas prefer their own supply from China. Fashions in the matter of broad-cloth vary in Tibet as much as in Europe: one year a snuff colour is in favour, next year a brown, and again an olive coloured cloth; and losses often arise from a certain colour ceasing to be in demand.

Borax.

Imports—Very little borax comes by Nilang and Mána. The imports by all passes in 1876-77 were 16,051 maunds, the statistics for succeeding years, excluding Nilang, being as follows:—

		Weight. Mds.	*Value.* Rs.			*Weight.* Mds.	*Value.* Rs.
1877-78	...	22,694	71,433	1880-81	...	28,536	1,70,730
1878-79	...	18,544	92,799	1881-82	...	33,821	2,02,926
1879-80	...	18,948	94,616	1882-83	...	21,527	1,72,216

The borax and salt mines called *tsa-tsáka* lie to the north of Bongbwa-Tol across a range which bounds the valley of the Shajjan river to the north-east. The exchange value at Gartoh is about Rs. 2 per cwt. or Rs. 1½ per maund. During the six years[1] preceding 1821, the price of borax at Bágeswar and Almora averaged Rs. 8-8-0 per maund of 82 lb. The price has had great fluctuations. Up to the British occupation the imports of borax rarely exceeded 1,500 maunds and the price for the raw article Rs. 3-8-0 a maund, but owing to the competition of English merchants, who made large advances for the purchase of the mineral in 1815-16, the price went up to Rs. 14 a maund, and the imports increased to 20,000 maunds in the following year. This was excessive compared with the demand; heavy losses ensued and

[1] To Board, 25th April, 1821. See Gaz X. 293: for an account of borax refining, see 'Report on Foreign Trade' for 1876-77.

capital was withdrawn from the speculation. In 1819-20 the price ranged between Rs. 12 and Rs. 14 per maund and fell to Rs. 6 in 1820-21, rising in 1821-22 to Rs. 8, and again falling to its normal price at Bágeswar, between Rs. 5 and 6 per maund for the unrefined article. In 1872, the price rose to Rs. 12, falling in 1877-78 to Rs 3½ and rising again the following year to Rs. 5½. In 1840 the imports by the Juhár pass were estimated at 9,000 maunds, and by the Dárma passes at 8,000 maunds. In 1868-69 about 17,000 maunds came by Milam; 15,000 by Dárma and Byáns; and 15,000 by the Garhwál passes. In the following year the total imports were 31,473 maunds

Salt.

The statistics of salt show 28,631 maunds in 1876 77, but as it is not sold for coin but bartered for grain the value is an estimate:—

		Mds.	*Value.* Rs.			Mds.	*Value.* Rs.
1877-78	...	31,709	1,09,072	1880-81	...	37,531	1,55,790
1878-79	...	21,453	81,754	1881-82	...	27,717	1,10,868
1879-80	...	39,785	1,81,681	1882-83	...	34,946	1,39,784

The Tibetan salt is dearer than that of the plains at Almora, but the further northwards we proceed the conditions alter and the cheaper salt wins the day. In 1821, the value at Almora for the previous six years averaged for Tibetan salt six rupees per maund and for Plains salt, three to four rupees. The barter as carried on at the same time is thus mentioned by Traill.[1] "The trade between the Bhotiyas and Tibetans proceeds wholly by the mode of barter, the commonest kind of grain, such as *phápar*, *manduwa*, and *ua jau* are exchanged at the villages within the Himálaya for an equal measure of borax or a double one of salt, while rice or wheat procure in the same situation a double measure of the former and a triple or quadruple measure of the latter article. This is the result when the Huniya is carrier in both instances, coming and returning; but when the Bhotiya proceed with his investment directly to the marts in Hundes a proportionately greater return (double) is necessarily obtained." By the time the salt reaches the consumers in our hills it is worth four or five times its weight in grain. Taking cash values the salt costs the Bhotiya in

[1] To Board, 25th April, 1821.

Hundes about Re. 1-4-0 per maund, and he receives value to Rs. 5-0-4 per maund at Bágeswar. The average import up to 1822 by all the passes was about 15,000 maunds. In 1841, the imports by Juhár amounted to 2,000 maunds and by Dárma to 3,000 maunds (valued at four rupees a maund). In 1868-69 9,000 maunds came in by all the passes[1] and in 1869-70, 10,521 maunds.[2]

Wool, &c.

Wool and woollen blankets locally manufactured form the next important item: 245 maunds of raw wool and 880 maunds of woollen stuffs were imported in 1876-77. The figures for succeeding years are as follows:—

	Raw manufactured.		*Value.* Rs.		*Raw manufactured.*	*Value.* Rs.
1877-78 ...	6,225	1,072	1,09,845	1880-81 ...	2,985	59,936
1878-79 ...	2,049	255	54,143	1881-82 ...	2,912	77,081
1879-80 ...	2,373	311	51,275	1882-83 ...	2,266	49,363

Blankets and coarse serges are the only articles manufactured to any extent by the Bhotiyas, and these chiefly for home consumption. The species called *pankhi*, which has the wool combed up on one side to resemble a fleece and which is made into gowns called *chaugas* and *bakus* or *bukhas* is manufactured by the Bhotiyas themselves. The thick woollen blankets are called *tholmas* and *chaptas*. Some account of the wool trade has already been given,[3] and we here merely complete the statistics. The remaining articles of import comprise gold-dust bound up in packets called *phatangs*, tails of the Yak for chauris, drugs, zafrán, and leather, valued at an average of Rs. 20,000 a year from 1,815 to 1822. In 1840 gold-dust valued at Rs. 12,000 was imported; chauris, aconite, orpiment, shawls, silks, tea, saffron, and musk, valued at Rs. 7,400; pashm valued at Rs. 1,150: coarse woollens valued at Rs. 3,000, and specie chiefly *timáshas* and rupees worth Rs. 22,000 were imported by the Juhár and Dárma passes. Ponies, damaged shawls, and coarse silks used to be imported to serve for payment in kind when such was the practice and were received at arbitrary prices far exceeding their value, but on the abolition of the duties on trade

[1] By Juhár, 4,000; Dárma, 3,000, Garhwál, 2,000. [2] By Juhár, 3,000; Dárma, 4,000; Garhwál, 3,521. [3] Gaz. XI., 41.

their import (except ponies) ceased. There can be no doubt that the opening of the railway to Ránibág at the foot of the hills will cause considerable changes in the coarse of trade, and the articles it comprises. Salt will probably be of less importance to the Bhotiya, and we may look for some improvement in the trade in borax and raw wool.

Future prospects.

Notwithstanding the poorness of the Tibetan country, indications are not wanting that the monopoly of the Bhotiyas will be broken, and that the result will be an increase in the aggregate amount of trade with Tibet. Under the former governments, the Juhári Bhotiyas alone had power to trade in plains merchandise all the others being confined to dealings in grain, and we know how long it takes in this country to break a custom when once established though no penalty attaches to any breach of it. Under the Gorkháli government for the first time the men of Nágpur and Dasoli in the west and those of the lower parganahs in the east turned their attention to the Tibetan trade. Of late years, again, the balance has appeared to incline in favor of the Juháris from their comparative nearness to the great marts for hill produce. In former times, owing to the exactions to which all plains commodities were subject, and the necessity for purchasing through many middlemen, they bore an unduly enhanced value in Hundes. But since 1815, owing to the facilities afforded by good roads, the abolition of transit dues, the presence of a good police, and the establishment of marts at the foot of the hills where the Bhotiyas can go and purchase for themselves whatever they require for their return investment the cost has for them diminished fully one-half. In this the Huniyas do not participate. The following remarks of Traill and Batten apply at the present day :—

"Were more equitable principles to be introduced in the transactions of this commerce, and were the commodities of India and Europe offered on fairer terms in the Huniya market, it is difficult to say to what extent the demand might be augmented. While the Bhotiyas retain their existing monopoly, no such desirable modifications can be anticipated as a continuance of the present exorbitant rates of profit is almost indispensable to avert general bankruptcy, which must otherwise result from the heavy load of debts with which the Bhotiyas are universally saddled. From the establishment of a direct intercourse between the Almora merchants and those of Tibet the desired object

will doubtless be gradually gained, the same capital will continue vested in the trade, but the whole profit of the speculation will there fall to the capitalists, while the losses to which the latter are now constantly subjected from the failure of the intermediate trader will be prevented; under such circumstances the rates of profit would naturally be lowered, and the demand and supply of exports from India might be expected to increase. To the Bhotiya, the disadvantages resulting from such a change would be more apparent than real. In the trade of the most profitable article of barter, grain, little or no competition could be offered, and with regard to the rest their services would be still indispensable in their proper original character of carriers and road-makers. Such an event in reference to their monopolising spirit, and inhospitable attempts to keep up and increase all the existing barriers against international intercourse would not be much regretted beyound their own circle."

Colonel Garstin writes, as regards Garhwál that "there are, however, signs of this monopoly being broken through; in 1872 some Nágpur men in Garhwál attempted to deal direct with the Huniyas of the Garhwál passes. A law-suit was the result, but it shows that others are prepared to attempt competition with the Bhotiyas. The Juhári Bhotiya is a much wealthier and more speculative man than his Garhwál neighbour. The latter is almost always in debt and entirely dependent on his creditors who, trusting to his proverbial carelessness in money matters, unite to leave him the barest means of support. They are now, however, improving by experience, and if they can once relieve themselves from the load of debt, there is a good opening for trade with Kotdwára which is in direct communication with Níti by a good road at once shorter and better situated for grazing for their animals than the Rámnagar route. There is a demand for cloth in Hundes, but the Bhotiyas are too poor to trade in it for themselves and merely carry it on account of their creditors or other rich traders.

The following account of the existing practice is given by Mr. Fuller in his report for 1878-79 :—

Trade at present.

"As an indication of the manner in which trade is transacted, an example of the year's business of a Juhári Bhotiya may be given. Starting from Milam in April or May, with his sheep laden with Indian produce, he journeys to Gartoh, the chief mart in Tibet. There he meets Tibetan traders in borax, salt, or perhaps gold-dust, who have brought these goods from places some distance beyond. Exchanging his grain, sugar, or cloth, for these articles, he returns to Milam, and, as the colder months of autumn approach, shifts his residence to places in the lower valleys this side of Milam, of which Tejam and Munshiyári are the chief. From thence he journeys southwards during the winter months in time to arrive at the fair

held in the Bágeswar valley (28 miles north of Almora) in the month of January. There he meets traders from the lower hills or plains beyond them, with whom he barters his Tibetan goods for the grain, sugar, and cloth, which are to form his next venture. If his goods do not sell at Bágeswar, he marches on to the larger markets of Pílibhít or Rámnagar, at the foot of the Himálaya. Occasionally more enterprising Bhotiyas reach Dehli, Agra, and even Cawnpore, returning, however, so soon as the hot weather begins to set in. Although three or four men have obtained considerable wealth, the majority appear to be on the verge of destitution, and trade not so much "for their own hand" as under the direction and with the capital of their wealthier brethren or of Baniyas in Bágeswar, Almora, or Barmdeo. To give some idea of the condition of most of these traders and of the manner in which they are tied, hand and foot, by pecuniary obligations, it may be mentioned that, some years ago, an English agent of a Calcutta house, who went to purchase borax at the Bágeswar fair to the value of a lakh of rupees was unable to obtain a single pound though the fair was flooded with it, and it was selling at no higher prices than he offered. The two or three wealthier traders, considering that the competition of outsiders threatened their interests, combined against him, and prevented the lesser ones from selling. A state of things like this would seem to go far to prevent any expansion of the trade controlled as it is by a small combination of traders who prefer attempting to stimulate prices by limiting the supply to increasing their profits by extending their transactions. Although most of the trade appears to be transacted in the manner described above, yet a certain portion of the Tibetan goods which enter our territory is brought to Milam by Tibetan traders themselves and exchanged there with the Bhotiyas. This is said to be especially the case with gold-dust. As with the Bhotiyas sheep are the means of conveyance for these Tibet traders between Milam and their own marts, but the sheep differ greatly from those used by the Bhotiyas especially in the far finer quality of their wool. It is reported that Tibet sheep rarely come south of Milam. One class of Tibetans cross our boundary in large numbers (said to be yearly increasing) and frequent the Bágeswar and other fairs. The goods they bring are, however, for the most part of little importance, chiefly consisting of peltry and turquoises. Tibetans coming to Milam with their goods give the Bhotiyas a commission of 10 per cent. on sales. This exaction is not recognized by the authorities, but is founded on long established custom and cannot be prevented. As has been noticed before, most of the trading is done by barter. Horses and *pashminas* (of goat's wool) are said to be usually paid for in cash, and it seems that certain articles are considered especially exchangeable for one another. On this principle, gold-dust is said to be chiefly given in exchange for cotton cloth, the most valuable of the regular exports. British coin is readily received in Tibet in preference, if anything, to local coin. A small silver coin is current called a *timásha*. Chinese coins are also occasionally used, being in the primitive form of bars of silver stamped in evidence of quality. One coin, called *kurs*, is equal in value to Rs. 166, and is used in large transactions."

A brief notice of the animals employed in the trade will close this portion of our subject. Sheep and goats serve as the means

of transport for nearly the whole of the grain, salt, and borax, and generally of all articles that are not very bulky, and some description of them has already been given.[1] The Bhotiyas keep few ewes themselves. They buy as many sheep as they want from the Chamba valley brought here by Kángra men as well as from the people of Dánpur. Sheep carry from five to eight sers and goats from eight to ten sers of 80 *tolas* each, but the former are more common, and six of them on an average carry a maund of 82lb. They march from five to six miles a day and make about five trips across the passes each year so that it would take a flock of 30,000 sheep to transport 25,000 maunds. For bulky articles the *jubu*,[2] a cross breed between the yak of Tibet and the Indian cow is used; being better able to bear the changes of climate to which the trade exposes them, they are preferred to the pure breed of the yak.[3] Some, however, of the Bhotiyas keep the last-named species also as well as flocks of the large Tibetan sheep. These are never brought down into the lower hills when it can be avoided, and are only employed in the transport of goods across the passes and through Hundes. They are sometimes left in Hundes for the winter in charge of the Huniya friends of the Bhotiyas. The statement that the hybrids breed freely together must be corrected, for from inquiries made, it is clear that the male *jubu* and *garjo* are absolutely sterile; but that the female can breed with a male of either of the pure races, in which case the produce nearly approaches the character of the sire. Formerly there was a considerable trade in the hardy ponies known as *gúnts*, but since the Sikh invasion in 1840, when most of the mares were taken away, it has languished, and ponies which could previously be procured in numbers for one hundred rupees each now fetch three times that price and are scarce.

Carriage.

When the Bhotiya maháls became subject to the hill states the assessment was fixed at a quit-rent payable in gold-dust. A knowledge of this circumstance at once explains the nature of the denominations in which the revenues of these tracts were calculated, the *kanch* or *tola*, *másha*

Fiscal history.

[1] Gaz. XI., 38 [2] *Ibid*, p. 38: more correctly *zhobu* or *zo*.
[3] Commonly called in these hills *chaunr*, the '*ri*' being nasal.

and *rati*. The detailed cess fixed under this system became the standard of estimate up to Batten's settlement, and was equivalent to the modes of measurement in use elsewhere. In practice the value of the *kanch* varied considerably and was subsequently fixed at twelve rupees.[1] In Níti the measurement[2] was similarly fixed on a standard called *dumaula* eqnal to half a *kanch* or six rupees. The assessable items comprised besides the ordinary agricultural products, the profits on trade equivalent to our license-tax, a loom tax called *tandkar* which also has its type in the plains systems, jungle products, pods of the musk deer, hawks, bees' wax, and honey. In the old records of the Garhwál and Kumaon assessments before the British occupation all these items are enumerated and assessed separately. The aggregate revenue thus imposed on each valley was as follows :—

	Kanch	*Másha.*	*Rati.*	
Juhár ...	133	5	2	Níti or parganah Painkhanda 206
Dárma ...	363	1	5	*dumaula* = 103 *kanch.*
Byáns ...	71	9	0	

Mána appears to have been from the first granted in *sadábart* to the Badrináth temple therein situate. The revenue due from Byásn is given as it stood whilst belonging to Jumla and omitting the few villages east of the Káli still belonging to Nepál. The Bhotiyas were subject to the reliefs and aids levied from all subjects on occasion of the marriage of the sovereign or his children or of war, &c. But as their assessment included a tax on the profits of trade they were relieved from transit duties. The villages below the passes now incorporated with the Bhotiya maháls were subjected to the same system of assessment, only instead of profits of trade there was an increase under the head 'agricultural produce' arising from an additional crop. The revenue assessed on those portions was :—Juhár, 398*k*. 5*m*. 6*r*. : Dárma, 42*k*. 7*m*. ; and Níti, 125 *dumaula*. The last sum excludes the revenue due from Joshimath and other *saddbart* assignments in parganah Painkhanda.

Mutual convenience led to the commutation of the original article of tribute, and at the conquest of Juhár in 1670 A.D. by

[1] To Board, 25th April, 1821. [2] The only practical mode of computing land which existed in Níti at the British occupation was by the plough of one yoke of bullocks. The quantity of land which could be cultivated by such means in one day from sunrise to sunset paid one rupee a year towards the gross assessment.

Early assessment.

Báz Bahádur Chand, the value of the *kanch* was fixed at twelve *kachcha* rupees, and a permanent valuation was made of the commodities the produce of Tibet or Bhot which were to be received as payment in kind. As the value of these articles fell below the rates in the original schedule, it became an object with the Bhotiyas to extend their payments in them. This became a fruitful source of conflict between the Collectors of the revenue and the Bhotiyas, and resulted in an agreement by which "the proportion of the payments was ultimately established at one-half in kind, and the rest in coin; and in the event of the Bhotiyas being required to pay the whole of their assessment in money a deduction of twenty-five per cent. was allowed on the portion payable in merchandize; such being, in point of fact, the actual depreciation in the current prices from the rates fixed in the original appraisement. During the government of the Rájas, the public demand continued unaltered, though subject in its liquidation to the variations arising from the depreciation above noticed. The greater part of the revenue was assigned to the garrisons of forts in the mouths of the passes and to the payment of the civil local functionaries. The residue was collected on the spot by an officer annually deputed from the court for adjudicating the civil and criminal pleas pending among the Bhotiyas. The internal management was left to the daftaris or patwâris and to the *búrhas*, or heads of villages, by whom also the detailed cess was apportioned, being laid every third year wholly on the land, and during the intervening period levied in the shape of a capitation, or rather of a property tax.

Traill's report.

The *búrhas* in addition to the usual dues on marriages, &c., received a small public allowance from the rents of their respective villages. They were also assisted by petty officers corresponding with the mukaddam and kotwál of the plains. These again were similarly remunerated. The garrisons above mentioned appear to have been retained in the passes principally to protect the inhabitants from the incursions of Bhotiyas from the other passes, especially the Játs of Jumla on the Nepál side of the Káli. On the Gorkháli invasion the principal opposition to their arms was made by the Bhotiyas: for the period of nine years, after the

submission of the rest of Kumaon, the Juháris frustrated every effort made for their conquest, and it was a consideration of their commercial interests, rather than any successes of the invaders, which ultimately induced a subjection to that power. This resistance on the part of the Bhotiyas, joined to an exaggerated reputation for wealth, marked them out for peculiar exactions; the public demand rose gradually to Rs. 7,000 in Níti, 12,500 in Juhár, 10,000 in Dárma, and 5,000 in Byáns, while in some years nearly double those sums were extorted, under various pretences, by the officers employed in the collection. The gross receipts of the inhabitants from every source of production were inadequate to answer such excessive impositions, the capital and stock of individuals were gradually dissipated in their liquidation, and ultimately a load of debt was incurred for that purpose. When both the means and credit of the individual were exhausted, emigration became his only resource; in this manner, the depopulation of the passes was rapidly taking place when the magnitude of the evil led to the interference of the Nepál Government. An officer of reputation, Bhagti Thápa, was especially deputed for the re-settlement of the Bhotiya mahals; under his vigorous superintendence the present difficulties of the Bhotiyas were, in a great degree, removed by the enforced restoration of a portion of the exactions, and by the reduction of the demands of their creditors to the mere principal sum actually advanced; while the principal source of these difficulties was cut off by a remission in the public revenue, reduced to 4,700 for Níti, 8,000 for Juhár, 7,000 for Dárma, 2,700 for Byáns. The established principle of liquidation, half in money and half in merchandize, continued in force, but no longer afforded to the Bhotiyas its former advantages. The whole of these mahálś were included in the military assignments, and their revenues were either collected by the assignees themselves, or were leased by them for a sum to some responsible individual; in either case, the demand for the half in merchandize was commonly disposed of in gross to some Almora usurer, by whom it was raised to a full equality in value with the money half at the expense of the Bhotiyas.

The Government revenue was imposed on each valley in one gross sum, and was distributed by the *búrhas* or headmen who

were the same as the *padháns* of the lower parganahs: in this measure they always assumed the original amount of the village tribute as the standard for calculation. At the first settlement in 1815, the collections of the two previous years were assumed as the standard of assessment, and as the demand was to be paid in current coin (Farukhabad rupees), an allowance of one-fourth was made on the half hitherto paid in kind and a further reduction of the same amount to cover the discount in coverting Gorkháli into British rupees. The net assessment[1] on the villages within and below the passes amounted to Rs. 11,565. In the year 1818 all the duties[2] on other than jungle products were abolished, and the *kanch* was reduced to one-half with the following result:—

	Area.			Rate of cess.	Assessment in rupees.	
	Kanch.	*Másha.*	*Rati.*		1817A.D.	1818-19.
Kumaon.				Rs. a.	Rs.	Rs.
Juhár ...	365	3	3	6 0	5,313	2,200
Dárma ...	353	3	4	4 0	3,409	1,400
Byáns ,,	71	9	0	4 0	695	280
Chaudáns,	49	9	4	5 0	532	250
Garhwál.	*Dumaula*					
Níti ...	175	0	0	2 8	1,005	'440
				Total ...	10,954	4,570

These totals differ slightly from the figures shown hereafter owing to alterations in area. They are taken from the actual reports of the time.[3] The reductions effected were almost entirely made within sub-divisions of the parganahs lying within the snowy range. Thus in Burakueni, Burapeta, and Tallades in the lower patti of Juhár the reduction amounted to only Rs. 164, whilst in the upper patti Rs. 2,978 were reduced. Similarly in Garhwál pattis Negi, Bhandári, and Tapuban were in no way concerned in the Tibetan trade, and the abatement made was only allowed in the Bhotiya villages. In the Dárma parganah, a special reduction was allowed on account of losses by the cattle plague, which then as now periodically devastates the flocks and herd of the

[1] To Board, 12th December, 1818, 20th April, 1819, 2nd July, 1819, Board's Records, 30th July, 1825, No. 3, 9th August, 1827, No. 10. [2] To Board, 28th August, 1818. [3] To Board, 28th August, 1818.

Bhotiyas. The demand now fixed remained in force for the remainder of the first triennial settlement. At the second triennial settlement a progressive rise took place, based on the increase in cultivation especially in the lower portions of the pattis brought about principally by the return of tenants who had fled to the western hills beyond the Satlaj owing to the exactions of the Gorkhális and finally amounted to Rs. 5,812 a year. In many cases owing to internal disputes the distribution of the assessment over the villages in each was no easy task. In his report for 1817, Mr. Traill mentions the difficulties encountered by him in Juhár. He writes—"To the gross demand no objection was made, but in settling the portion of each village it has been hitherto found impossible to reconcile all parties." A similar state of affairs existed in the previous year leading to a considerable balance being due from the parganah. Again in 1818 he writes :—" The assets of Bhot consisted principally in the profits of trade which varied in the different villages, so that a farm of each sub-division in the name of the chief proprietor would appear to be the form of management best calculated to secure the interests of the State and of the people. This system was rendered impossible in Juhár by internal dissensions. Biji Singh, the farmer of the last two years had made himself obnoxious to the people and separate farms for all three (Níti, Juhár, and Dárma) were now made." Owing to a famine which occurred at this time, the assessment was reduced by nearly a thousand rupees which was proportionately greater in Dárma and Byáns where the scarcity was most felt, and where considerable damage had been done by the incursions of the Játs from Jumla. For Dárma and Chaudáns engagements were taken from Kítu *búrha*, and for Byáns from Sísu *búrha*.

The settlement in 1840-41 was made by Mr. J. H. Batten. In some villages of Juhár, owing to the loss of population, bad situation, and other causes it was found necessary to reduce the revenue demand, and though these decreases were partially compensated by slight increments in other villages, the result was a deficiency on the previous assessment. At the time of settlement, Debu Patwári and the principal men among the Bhotiyas willingly agreed to distribute the increase necessary to make up the deficiency amongst

the flourishing villages of the upper patti, and the total amount of land-revenue was left the same as before. Those on whom the difference was assessed, however, soon complained with the result that the deficiency was allowed to fall on Government, and the Bhotiyas were relieved from the additional burden. Mr. Batten adds:—"Though a friend to light assessments, I am still of opinion that the Bhotiyas pay to Government a smaller share of their profits than the other inhabitants of the province; and that considering their increased and increasing resources, the reduction (consequent on the expulsion of the Gorkhális, and the introduction into the province of British principles of taxation) made in the revenue of the passes, as compared to that made in the revenue of the agricultural communities, was disproportionately large. Independent of revenue considerations, however, political reasons exist for depriving our frontier subjects of all grounds of complaint." In Dárma, Byáns, and Chaudáns the old light assessment was retained, but as there were numerous waste villages in this tract, it was necessary to impose revenue easily paid and which might allow the people something from which they might save for unfavourable seasons. This amounted to Rs. 904 for Dárma, Rs. 291 for Byáns, and Rs. 210 for Chaudáns. In Painkhanda, Traill's assessment in 1828 was but slightly altered and the demand remained unchanged until 1864.

The following statement shows the statistics of the several subdivisions as they stood before the current settlement was made at which many changes of an important character were effected. It gives the figures for the period from the conquest up to 1864 for Garhwál and up to 1872 for Kumaon:—

	Number of estates.	Number of villages.	*Assessment in rupees.*								*Assessable area in bisis.*			
			1815.	1816.	1817.	1820.	1823.	1828.	1833.	1841.	Total estimated.	Cultivated.	Culturable.	Rate on cultivation per bisi.
Kumaon.														Rs.a.p.
Malla Juhar,	11	16	3,652	3,815	3,735	712	848	848	861	852	1,716	87$_7$	839	0 15 6
Talla Juhar,	56	225	1,190	1,325	1,318	1,923	2,531	2,540	2,576	2,534	4,213	2,43$_6$	1,744	1 0 8
Darma ...	15	49	3,388	3,815	3,399	808	852	879	904	904	5,182	3,76$_9$	1,409	0 3 10
Byans ..	6	18	874	904	875	252	273	276	291	291	1,892	1,24$_3$	659	0 3 9
Chaudans ...	1	29	263	1,031	263	165	210	210	210	210	776	33$_0$	361	0 10 12
Total ...	89	337	9,367	10,910	9,590	3,860	4,714	4,753	4842	4,791	13,779	8,645	5,012	...
Garhwal.														
Painkhanda,	24	45	1,550	1,550	922	1,040	1,091	1,275	1,304	1,294	2,183	1,834	246	0 11 3
GRAND TOTAL	113	382	10,917	12,460	10,512	4,900	5,805	6,028	6,146	6,085	15,962	10,479	5,258	...

The current settlement in Kumaon was made by Mr. J. O. B. Beckett in 1863-73. The profits of trade must to a certain extent be considered in making the assessment, for in order to make these profits, the Bhotiyas are allowed practically exclusive occupation of immense tracts of grazing ground ; they have also the advantage of the roads and bridges constructed at great expense and pay very little to the Tibetan government. On the other hand, they are liable to severe losses from murrain amongst their flocks and herds, and it was from a consideration of these facts that the distribution of the lump assessment on the Juhár pattis was left to the people themselves in council. They could best assess the losses from trade and murrain and make the assessment an equitable one. But still it will be the duty of our officers in bad seasons to make remissions and so ease off those losses which in commercial language may be considered an 'act of God' and are not due to causes humanly preventible. The people of the Dárma parganah are still quite differently situated from those further west. They pay more to the Tibetan government than the others and are far less civilised ; their indulgence in strong drink being one of the causes of their povetry and backwardness. The Byáns people can easily evade any order that they think vexatious by migrating to Nepál, and they have no respect for law, except so far as it makes itself felt by them. The most enterprising people in this patti are the Khampas or Tibetan gipsies who had long been traders in these parts, and were located here at the settlement and made to contribute to the revenue like other Bhotiyas—a matter they were not loth to accede to as it gave them a status as revenue-paying British subjects that they did not before possess. In Chaudáns the people can live and cultivate the whole year, and the assessment is consequently comparatively higher. The following statement gives the particulars of the current and past settlements of the areas now comprised in the several sub-divisions :—

	Number of estates.	Number of villages	Assessment in rupees.								
			1815.	1816.	1817.	1820.	1823.	1828.	1833.	1843.	Current.
Juhár.											
Malla Juhár ...	13	14	3,652	3,816	3,734	757	868	878	904	875	1,485
Goriphát ...	57	106	565	622	727	1,276	1,580	1,567	1,586	1,541	2,212
Talládes ..	37	92	628	703	591	601	934	935	949	957	2,265
Dárma.											
Dárma Malla ...	15	20	3,343	3,784	3,364	728	752	755	760	755	861
Dárma Talla ...	4	5	45	51	35	80	110	124	144	144	168
Chaudáns ...	11	11	256	1,027	256	165	210	210	210	210	355
Byáns .	7	7	874	904	875	252	273	279	291	291	517
Painkhanda ...	46	76	1,550	1,550	922	1,040	1,091	1,275	1,304	1,294	1,649
Grand Total ...	190	331	10,910	12,457	10,504	4,899	5,818	6,023	6,148	6,067	9,532

The following table shows the statistics of area, cultivation, and population :—

	Assessable area in bísis.				Rate per acre on		Population.		Area held revenue free.
	Total.	Cultivated.		Culturable.	Total area.	Cultivated area.	Males.	Females.	
		Irrigated.	Dry.						
Juhár.					Rs. a. p.	Rs. a. p.			
Mallá Juhár ...	278	...	126	151	...	...	2,138	1,834	18
Goriphát ...	3,390	382	1,574	1,433	0 10 5	1 2 1	1,450	1,263	...
Talládes ...	2 664	696	615	1,351	0 13 9	1 11 10	1,486	1,391	6
Dárma.									
Dárma Malla ..	1,019	89	584	343	0 12 6	1 2 11	934	735	6
Dárma Talla ..	348	...	235	82	0 8 5	0 11 5	299	231	...
Chaudáns ...	616	97	345	174	0 9 3	0 12 10	420	360	103
Byáns ...	393	84	269	39	1 5 0	1 7 5	910	812	...
Painkhanda.	3,142	...	2,452	690	0 13 6	1 1 4	2,829	2,694	Included in column 2.
GRAND TOTAL,	11,850	1,348	6,200	4,263	...	...	10,466	9,320	133

In 1881 the population of parganah Juhár comprised 9,424 souls (4,621 females) : of Dárma about 5,000 ; and of Painkhanda 7,513 (3,731 females).

Bidolsyun, a patti of parganah Dewalgarh in British Garhwál, is bounded on the north by Patti Chalansyún ; on the south by Patti Ghurdursyún ; on the west by Patti Katholsyun and on the east by Patti Kandársyún. This patti was formed from parganah Dewalgarh in 1864. The Patwári of Kandársyún, usually resident in Khandgaon, collects the land-revenue of this patti and Ghurdúrsyun. The patti consists of the valleys of the Pasín-gadh and another small tributary of the western Nyár.

Bidyakoti, a halting place, with dharamsála, on the route from Hardwár to Srínagar in Patti Bangarhsyún of parganah Bárahsyún in Garhwál is situated in latitude 30°-9′-52″, and longitude 78°-39′-58″ : distant 11 miles 3 furlongs, 12 poles from Byánsghát and 14 miles 7 furlongs 29 poles from Srínagar. The road hence to Srínagar follows the left bank of the Alaknanda river crossing the Kolásu rivulet by a 27 feet bridge (2,800 yards) to which it is undulating and thence level to the Ránibág dharamsálas, 8 miles 3 furlongs 26 poles from Deoprayág and 5 miles 2 furlongs 11 poles from Bidyakoti. Hence to the Bhainswára rivulet undulating for 4 miles, and to Janásu-Sain, an ascent of 660 yards and a descent of 520 yards, distant 9 miles 7 furlongs 33 poles from Bidyakoti. Hence level by Dhaulkandi, Manjkot, and Uphalta to Srínagar, 4 miles 7 furlongs 36 poles. The bungalow is situated in a low level marsh on the left bank of the river (see SRINAGAR).

Bijlot Walla, a patti of parganah Talla Salán in British Garhwál, is bounded on the west by the Hingwa river which separates it from the Palla patti, and on the east by the De-gadh river which separates it from Patti Gújaru. It lies entirely in the duáb of these rivers to their junction with the Rámganga near Sult-ki-Mahádeo. The patwári of this patti usually resides in Dungari, and collects the land revenue of Gújaru also ; both aggregated in 1864 Rs. 2,488 for *sadábart*, and land revenue, paid by a population of 5,837 souls. The road from Rámnagar to Páori passes through this patti which supports a school at Bungari.

Bijlot Palla, a patti of parganah Talla Salán in British Garhwál, is bounded on the north by patti Khátali; on the south by patti Búngi; on the west by patti Iriyakot; and on the east by the Walla Patti of Bijlot. This patti was separated from Bijlot in 1864, and at the same time the village of Negiána was transferred to Patti Badalpur Talla. The land-revenue is collected with that of Búngi by a patwári usually resident at Buret. This patti lies along the right bank of the Hingwa stream from its source to its confluence with the western Rámganga near Bhúra.

Binsar, an eminence of the lower Himálaya at the southern extremity of patti Malla Syúnara and parganah Bárahmandal in Kumaon, is distant 13 miles north-east from Almora. It contains the summer residence of the Commissioner of Kumaon and a few other houses belonging to Europeans. The view of the snowy range hence can hardly be surpassed. The elevation is 7,969 feet above the sea. There is a good road from Almora and one branching off to Hawálbág and another to Bágeswar. The station of the Great Trigonometrical Survey here lies in latitude 29°-42′-26″ and longitude 79°-47′-44″ at an elevation of 7,913 feet. Amongst the local legends of Binsar is the story of Kalbisht told elsewhere. The Doms of the neighbourhood particularly reverence his name, and before special oaths were abolished in our courts they used to take in their hands a paper or a stone wrapped in paper bearing his name as an oath instead of the Ganges water used elsewhere. It is said that the villagers of Bhúkunda once desired to divert the stream near the temple to their own fields, but the deity interposed and caused water to flow in the ravine to the right of the hut which is hence called Bur-ke-páni or the 'boon-given water'.

Birahi or Biri Ganga, a river of the Garhwál district, rises in the northern glaciers of Trisúl, 15 miles east of the village of Iláni in latitude 30°-20′ and longitude 79°-45′. It has two branches which join below this village. The Birahi has a course east to west and its length is about 25 miles: it joins the Alaknánda on the left bank at the village of Birahi six miles above Chimoli in latitude 30°-24′-40″ and longitude 79°-25′-50″. In 1868, a landslip fell into the lake of Gudyár Tál which supplies one of the feeders of this river, and drove out half of the water of the lake, instan-

taneously causing the river to overflow and even flooding the Alaknanda so greatly as to carry away two large wooden bridges, and sweep away some 73 persons who were sleeping on its banks at Chimoli. The Gudyár Tál is a small lake formed by the damming up of a small stream by a land-slip. It was, till the land-slip here mentioned fell, about half a mile long, it is now barely quarter of a mile long and 100 yards broad at its widest point.

Bisaud, a sub-division of parganah Bárahmandal, divided into three pattis at the recent settlement, the Malla, Talla, and Biehhla. The statistics of all three may be shown thus:—

Bisaud.	Assessable area in *bisis*.				Assessment in rupees.				Incidence per acre on.		Population.	
	Total.	*Cultivated.*		Culturable.	1815	1820	1843	Current.	Total area.	Cultivation.	Males.	Females.
		Irrigated.	Dry.									
									A. p.	Rs.a.p.		
Malla ...	1,408	26	1,073	308	498	68	698	1,259	14 4	1 2 4	1,387	1,168
Bichhla...	504	15	388	100	115	121	143	474	15 1	1 2 10	433	372
Talla ...	515	2	378	136	111	156	198	419	13 0	1 1 8	523	442

Some account has been given of the Malla Patti. All three are close to Almora. Udyan Chand[1] was the first to disturb the possessions of the Katyúri Rajas of Bisaud in the first half of the fifteenth century. Some seventy years later Kirati Chand completed the conquest. Local tradition relates that then Raila lived at the west end of the Almora hill and Baichhla Deva, a Katyúri Rája, occupied the Khagmara fort on the south side of the hill, the former was called on to give as tribute to the Chands two live partridges every day, and wearied with the task yielded his fort; whilst the Katyúri Rája fled to Syúnara, and his place was taken for a time

[1] Gaz. XI., 527, 534.

by the Bisaud Rája who also eventually yielded to the Chands. The patwári of the Malla Patti usually resides in Dhárkhola and of the others in Baiganiya. There are schools in Bhainsagaon, Sail and Dhárkhola.

Bisaud Malla, a small sub-division of parganah Bárahmandal in Kumaon, is bounded on the north by Uchyúr; on the south by the Mahryúri Pattis; on the east by Sálam, and on the west by Kotauli Malli. The principal village is Tuleri. The patti was separated from Bisaud at the current settlement when two villages were transferred to Agar and one to Uchyúr and one was received from Mahryúri: see BISAUD.

Bisjyula, a patti of parganah Dhyánirau in Kumaon, is bounded on the north by Pattis Agar, Chaubhainsi, and Malli Rau: on the east by the latter patti; on the south by pattis Chaugadh and Chhabís Dumaula, and on the west by the latter patti and parganah Chhakbáta. Bisjyúla was formed from Malli Rau at the recent settlement. The assessable area comprises 2,484 *bísis*, of which 762 are culturable and 1,722 are cultivated (199 irrigated). The assessment at the conquest amounted to Rs. 1,038, which rose to Rs. 1,377 in 1820, and Rs. 1,675 in 1843: it is now Rs. 2,226 which falls at Re. 0-14-4 per acre on the total assessable area and at Re. 1-4-8 per acre on the cultivation: 307 *bísis* are held as an endowment for charitable purposes revenue-free. The population at the time of settlement numbered 3,734 souls, of whom 2,021 are males. One village was received from Chaubhainsi, one from Chhakháta, and three from Mahryúri at the recent settlement. The patwári usually resides at Bhadrakot.

Bogsárh, a forest bungalow and halting-place in Patti Bhábar (Patli Dún) of parganah Talla Salán in Garhwál, is situate on the left bank of the Rámganga river in the Pátli Dún in latitude 29°-34′-0 and longitude 78°-48′-30″, distant 12 miles 2 furlongs 8 poles from Kalushahíd and 9 miles 5 furlongs 8 poles from Chawalchara. The road hence to the latter village crosses the Rámganga at its junction with the Paláin river on the right bank, 2 miles 2 furlongs 4 poles. Both the bridges over the Rámganga are made fresh every year, the other rivers are unbridged. Thence the route passes up the Paláin river, called in its lower course the Tumriya,

crossing the river three times by fords to Chawalthura, 7 miles, 15 poles. No supplies or coolies are obtainable here, the road lying through the *sál* forests of the lower hills is entirely devoid of human habitations, and is seldom traversed except in the cold weather by other than the inhabitants of the neighbouring villages.

Borarau, a sub-division of parganah Bárahmandal in Kumaon, divided into the Walla and Palla pattis at the recent settlement. These lie together and comprise the tract containing the head waters of the Kosila around and above Someswar to Pinnáth and Kausáni. The statistics of the two pattis may be shown thus :—

Borarau.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.*		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Palla ...	2,158	719	686	753	898	1,694	1,884	...	2,172	1,963
Walla ...	1,792	723	528	541	647	1,096	1,492	...	1,428	1,315

The incidence of the land revenue in the Palla patti on the total area assessable is Re. 1-8-8 per acre and in the Walla patti Re. 1-10-11 per acre ; the incidence on cultivation is Rs. 2-5-11 and Rs. 2-6-6 respectively. Borarau was conquered by Kirati Chand, and colonised by his troops from Dhyánirau[1] about 1490 A. D. The Patwári lives at Someswar where there is a school and another at Salaunj.

Bo-udiyar or Bo-udyár, the Bodar, Bugdwár and Bugdoár of travellers, a halting-place in Patti Malla Juhár, of parganah Juhár in Kumaon, is situated on the route from Almora by Milam and the Unta-dhura Pass to Tibet on the right bank of the Gori river, five miles from Rargári, 102 miles from Almora and ten miles from Martoli. Bo-udiyar is a small open space used by the Bhotiyas for their encampments at an elevation of 8,028 feet above the level of the sea. The torrent of the same name is here

[1] Gaz. XI., p. 535.

crossed by a *sánga* or spar-bridge. Abreast of this place the Gori tumbles in cataracts over huge masses of rock with a fall in some places of 800 feet per mile. The road from Laspa is very difficult; it crosses the river twice; once over a large *sánga* and again over four smaller ones like ladders from rock to rock in the bed of the stream, where the river has a very great fall, a little below a very lofty precipice. The whole mountain here forms a complete wall from summit to base which is washed by the stream. Besides the ladders across the stream there are several others along the road which would otherwise be impassable. In May and June, these difficulties are avoided by marching over the snow-beds that are met with at that season all over the river. When the snow melts in several places magnificent cascades are formed. In October a snow-bed was seen having a complete archway through which a stream passed which fell from a great height over a precipice immediately behind it. Below Laspa, about a mile, near the bed of Gori, large granite blocks are found; beyond it to Bo-udiyár[1] gneiss, with granite veins.

Budhi, a only sub-alpine village of Patti Byáns in parganah Dárma of Kumaon lies on the right bank of the Palangár stream above its confluence with the Káli in latitude 30°-6′-30″ and longitude 80°-41′: distant 7 marches or about 62 miles north-east of Askot. The village is passed on the route from Askot to the Byáns passes into Tibet, and is situate amid some very lofty peaks of the main range of the Himálaya. Immediately above Budhi, a steep hill ridge advances from the mountain side on the north-west and extends across the valley, leaving but a narrow passage for the river. The summit Chetu-Binayak (10,500 feet) is reached after an ascent of 1,750 feet by an easy path and thence Gárbiya, the first village in upper Byáns. The elevation according to H. Strachey of Budhi is 8,500 feet above the level of the sea.

Bungi, a patti of parganah Talla Salán in British Garhwál, is bounded on the north by pattis Bijlot Palla, and Iriyakot; on the west by the latter patti and Painún; on the south by the latter patti and the Kota Bhábar and on the east by the Sult pattis of Kumaun. The patwári of Bijlot usually resident at Buret collects the revenue of this patti also; both in 1864 aggregated for land-

[1] 'Udyár' means a cave or hollow,

revenue and *sadábart* Rs. 2,686 and for *gúnth* Rs. 45, paid by a population of 6,592 souls. This patti comprises the hilly tract lying between the Kulli river on the west, the Mandhál on the south, and the Rámganga on the east. There are iron mines worked at Gorkhanda and Bhawáni.

Byans, a patti or sub-division of parganah Dárma in Kumaon, occupies the valley of the Kuthi-Yánkti in the extreme north-eastern corner of the district. It is inhabited during the summer months by the Bhotiyas who occupy seven vilages—Gúnji, Garbiya, Kuthi, Nábhi, Napalchyu, Rúnkang and Wári-Budhi. The total assessable area is 393 *bisis*, of which 353 *bisis* are cultivated and pay a revenue of Rs. 517 per annum. The population at the time of settlement numbered 1,722 souls (812 females). An account of a trip through Byáns to the Lípu Pass,[1] taken from Lieutenant H. Strachey's Journal, has been given under the article BHOTIYA MAHÁLS. The patwári usually resides at Sosa : there is a school at Garbiya.

Byansghat, a halting-place or the route between Hardwár and Srínagar, lies 6 furlongs 29 poles north of the confluence of the Nyár river and the Ganges at Byánsghat, and is situate in latitude 30°-3′-40″ and longitude 78°-38′-30″ ; the encamping ground is distant 10 miles 5 furlongs from Chandpur, the last stage, and 11 miles 3 furlongs from Bidyakoti or 8 miles 1 furlong 37 poles from Deoprayág. The road hence to Bidyakoti keeps along the left bank of the Ganges river crossing the Naugaon and Kot rivulets 1,440 yards, thence undulating to Umrasu on the left bank of the Randi river, 5 miles 3 furlongs 22 poles. A short ascent leads hence to Gark-khal and a descent to the Randi which is crossed by a bridge of 56 feet span, 4 furlongs 15 poles. A short ascent and descent leads to a small rivulet, and a second ascent, descent, and level to Deoprayág, 2 miles 2 furlongs. Hence Dharmsálas, encamping ground at Bidyakoti, 3 miles 1 furlong 15 poles. If the march is broken at Deoprayág the next stage will be Ránibágh, 8 miles 3 furlongs 26 poles, and Srinagar, 9 miles 5 furlongs 18 poles.

[1] J. A. S. Ben. XVII. (2), 527: see further the articles Chaudáns, Rákas Tál, &c.

Chachaka, or more correctly Tsá-Tsáka, a great salt field in Hundes, from which most of that imported into northern Kumaon and Garhwál is brought. The lake which gives its name to the tract is situate in north latitude 32°-42′-0″ and east longitude 81°-55′-0″, at an elevation of over 15,000 feet above the level of the sea in the Zung of Rudukh and province of Nári in western Tibet. The lake is almost connected with a larger one, the Nagong-cho, and was visited by an explorer in 1868, who states that an area of about twenty miles by ten is all about on a level with the lakes. This space is filled with salt, the water having evidently at one time covered the whole. Borax fields were seen at Ruksum and Chachaka, and numbers of people were working on them. No gold or salt mines were seen or heard of between Thok-Jalang (*q. v.*) and Mánasarowar, but numerous borax fields were seen, at one of which one hundred men were at work near a camp of some thirty tents. The borax generally was said to find its way to Kumaon. The Lhása authorities levy a tax of about half a rupee for ten sheep or goat loads, about three maunds or 240lb. The value of the trade in borax and salt by the passes from Nilang to Byáns for four years is as follows :—

	1879-80.		1880-81.		1881-82.		1882-83.	
	Maunds.	Rs.	Maunds.	Rs.	Maunds	Rs.	Maunds.	Rs.
Borax,	18,948	94,616	28,536	1,70,730	33,821	2,02,926	21,527	1,72,216
Salt ...	39,785	1,81,681	37,531	1,55,790	27,717	1,10,868	34,946	1,39,784
Total ...	58,733	2,76,297	66,067	3,26,520	61,538	3,13,794	56,473	3,12,000

Taking the weight carried in 1882-83 and an average of six trips during the season, and ten sheep or goats for every three maunds, the number employed would be about 32,000 for the passes alone, setting aside those used for carrying other articles, such as wool, drugs, &c., and the animals employed in carrying the borax and salt from the fields beyond the frontier to the nearest mart.

Chakrata or Chakaráota, a cantonment for British troops in Khatt Birmau of Jaunsár-Báwar in the Dehra Dún district, is situate in north latitude 30°-32′-20″ and east longitude

77°-54′-30″, at an elevation of 6,885 feet above the level of the sea, 25 miles from Kálsi and 40 miles from Mussooree by the hill road. The cantonments have an area of 4,285 acres, or 6·7 square miles. The population in September, 1880, numbered 1,828 souls, of whom 60 were Europeans, 1,081 were Hindus, 649 were Musalmáns, 8 were Eurasians, 27 were Native Christians, and there were three others. These are all either traders or camp followers. Previous to 1866, the site of the present cantonments consisted of a range of grass-clad hills with forests more or less dense running up on all sides from the valleys below. The ground was used solely for grazing purposes, and a few low sheds here and there were the only signs of civilization. The road from Mussooree to Simla passed over these hills, and the fair expanse of comparatively smooth topped hills early attracted the notice of military men and became the subject of correspondence when the question of hill sanitaria for British troops arose. The supposed unlimited supply of good water at a high level on the Deoban range of hills marked the place as in every way suitable for a military station.[1] Operations commenced in 1866, but no troops came until 1869, when some Sappers were stationed here. These were succeeded by H.M.'s 55th Regiment under Colonel Hume, and it is to the interest taken by him and his men in the station that its rapid strides towards completion may be in a great measure attributed. For the first year the troops were occupied in road-making, clearing sites and building, they occupying temporary huts, but now substantial barracks have been built and a magnificent cart-road, seventy-seven miles long, connects the station with Saháranpur by Timlí and Kálsi. The original buildings and the road cost fifty-four lakhs of rupees, and most people consider that some less substantial buildings and a less expensive roadway would equally have subserved the objects contemplated. There is a Cantonment Magistrate's court, post-office, money-order office, savings bank and telegraph office. There is no church, divine service being held in the gymnasium. The water-supply from the Deoban hill, though not quite so unlimited as was at first supposed, is good and ample. If more be wanted, springs further off can be tapped. A scheme for bringing the water into cantonments is now in progress of execution.

1 From a note by Mr. H. G. Ross, C.S.

Only one regiment is at present stationed here, but sites have been cleared for the accommodation of another, and also for a convalescent depôt. The Simla and Mussooree road passes through the cantonments, where there is a good travellers' bungalow 106 miles from the former and 40 miles from the latter. There is another bungalow on the road to Mussooree at Lakhwár, 14 miles from Mussooree, and another is under construction between Lakhwár and Chakráta. The scenery around Chakráta is wild and grand, and on the Simla road some of the finest views in the hills are to be obtained, but there is no shooting near the station and nothing to attract the sportsman. The cantonment funds in 1882-83 showed an income of Rs. 8,483, of which Rs. 1,672 were raised by a watch and ward tax; Rs. 2,524 by the sale of grass and wood; Rs. 957 by voluntary subscriptions; Rs. 1,866 by grants from the Imperial government, and the remainder by conservancy fees, pounds, fines, and rents. The expenditure for the same year amounted to Rs. 8,559, of which Rs. 1,535 were for police; Rs. 4,425 for conservancy and establishment; Rs. 699 for public works; and Rs. 1,900 for miscellaneous charges.

Chalansyun,—a patti in parganah Dewalgarh of British Garhwál, is bounded on the north by the Ganges, which separates it from Tihri; on the south by patti Bidolsyún; on the east by patti Bachhansyún; and on the west by Patti Katholsyún. This patti was formed from Dewalgarh in 1864. The patwári of Bachhansyún residing in Nawása collects the land-revenue of this patti. There is a school at Dúngari. The patti contains the villages along the Dewal and Dúngari streams, two small affluents of the Ganges. Near the source of the Dúngari, the Gandkhola peak attains an elevation of 7,553 feet above the level of the sea.

Chalsi or Chálisi, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by patti Rangor; on the west by Sálam Talla and Malli Ráo; on the south by Pharka and Asi, and on the east by Gangol. The principal villages are Bairukh, Ijuta, Gágar, and Kánikot. The assessable area comprises 3,393 *bísís*, of which 1,014 are culturable and 3,378 are cultivated (84 irrigated). The land tax yielded Rs. 910 in 1815: Rs. 1,348 in 1820: Rs. 1,579 in 1843, and now stands at Rs. 2,578, which falls on the total

assessable area at Re. 0-12-2 per acre, and on the cultivation at Re. 1-1-4 per acre. There were 631 *bísis* held free of revenue as *gúnth*. The population at settlement comprised 2,501 males and 1,978 females. This and Asi were formerly united, they lie to the extreme west and north-west of the parganah and extend towards Deo Dhúra and the valley of the Panár. The villages are numerous and the inhabitants are prosperous, but towards the west the soil is somewhat poor. Chálsi received two villages from Sálam at the recent settlement. The patwári usually resides at Ijta: there are schools at Ríthakhál and Dúngarakot.

Chamoli, a small market-place, on the left bank of the Alaknanda, on the Srínagar and Níti road in patti Talla Dasoli of Garhwál, is situate seven miles north of Nandprayág. There is a pilgrim dispensary, a few shops for the sale of grain, and several dharmsálas or rest-houses here, and in the winter a school for the children of Bhotiyas who come here to graze their flocks and herds on the flats along the river. The pilgrim road from Kedárnáth by Ukhimath, and Gopeswar joins the Níti road here and passes the Alaknanda by an iron truss bridge of 110 feet span. Chamoli was the scene of the disaster owing to the bursting of the Gudyár Tal (*q. v.*) noticed elsewhere.

Champáwat or Champháwat, a village in Patti Chárál Palla of parganah Káli Kumaon in Kumaon, lies in latitude 29°-20′-11″ and longitude 80″-7′-84″ at an elevation of 5,546 feet (Tahsíli) above the level of the sea, 54 miles south-east of Almora. The population in 1881 was 358. It is, however, important as the head-quarters of the Sub-Collector of the land revenue (tahsíldár) of parganah Káli Kumaon, and the site of a police-station, both of which are situated within the enclosure of the old fort. The rocks of Champáwat are partly gneiss, which having become disintegrated in many places, have given way and, according to McClelland, caused the destruction of the greater part of the old buildings. It was the residence of the landholders styled Rájas of Kumaon before they transferred their seat to Almora in the middle of the sixteenth century. The old palace is now in ruins, but the fort partly remains. Amidst the ruins of the palace, of which the base and doorway of a balcony alone remain, is a fountain about ten

feet square outside the quadrangle, and near to it are three or four temples on a level area about one hundred feet square hewn into the solid rock. They are each polygonal at the base twenty feet in diameter and surmounted by an arched dome; all being constructed of stone with good taste and elaborate workmanship. They must be of considerable antiquity as some apparently coeval ruins situate above the temples are in many places overgrown with forests of aged oaks. The elevation above the sea is considerable, but still from its position in a valley the site is said to be unhealthy. Owing to this cause, the cantonments were removed from Goril-Chaur in 1815 to Lohughát, six miles further north. Close to the fort is a fine clump of *deodár* trees enclosing the temple of Ghatku Deota, in whose honor a fair is held annually. The mound on which the temple is built is said to be the Kurmáchal of the Skanda Purána, because on this spot Vishnu assumed the Kurmá or tortoise incarnation. The name Kumaon is said to be a corruption of Kurmáchal and the tract of which Champáwat is the centre is now known as Káli Kumaon[1]; "the Kumaon near the river Káli" to distinguish it from other Kumaons. It was not till the accession of the Chands to power that the name of their principal residence was given to the whole district.

Chandi, a portion of the Bijnor district formerly belonging to Garhwál, generally known as Chandi Pahár. It is bounded on the west by the Ganges, on the south-east by the Paili Rau up to its junction with the Khara Sot; from thence the boundary runs up the Khara Sot about 2½ miles, turns up into a small tributary in a north-westerly direction, crosses a low ridge, and goes into the Ghasirám Sot, continuing along this Sot to its junction with the Ganges. The whole tract is densely covered with forest, the nothern slopes with *sál*, and the base and depressions with bambus, but any valuable timber that it once possessed has been used up for charcoal for the Roorkee workshops. Chandi frequently appears in the old records. We find the ubiquitous Major Hearsey laying claim to it at the conquest as a portion of

[1] There were two divisions, (*a*) Kumaon including Shor, Gangoli and Chaugarkha; and (*b*) Káli Kumaon, including Dhyánirau, Chaubhainsi, and the other pattis of Káli Kumaon. The people are called Kumái, but ordinarily in common conversation they call themselves by the name of their own patti, all the rest being known as Khasiyás.

the bargain that he made with the exiled Rája of Garhwál to restore him to his possessions. His pretensions were purchased by the British Government for a good sum, and it may be as well here to record some of the facts concerning its history.

Fiscal history.

In 1817, a portion of the Chandi taluka, extending from Anjani ghát to Rikhikes, and including seven inhabited and nine deserted villages, was annexed to the Dún. These were assessed at a varying demand, amounting to Rs. 1,113 in 1821 and Rs. 335 in 1828, and for five years subsequently at Rs. 259 a year. The portion remaining in Garhwál was settled for five years by Mr. Traill, 1819-20, at Rs. 1,147, being an increase of Rs. 87 over the previous revenue, *plus* Rs. 2,501 for the *deh-i-ek* or tithe on forest produce. Fourteen villages were transferred to the Dún in 1828 and settled at Rs. 6,834 by Mr. Shore. Traill writes in 1833:—"The taluka was partly in Saháranpur and partly in Moradabad before its annexation to Garhwál and the Dún, and the periods of the leases differed from each other and the parts of the province to which each was annexed." It is consequently difficult and indeed of not much moment to trace out the actual revenue. The settlement of the Saháranpur portion expired in 1831, and a new settlement up to 1836 was made. The settlement of the Moradabad portion expired in the following year, and the new assessment was also made up to 1836. The country is described as being almost entirely jungle and with little cultivation. "To the natural impediments are added insecurity of life and property, in consequence of the constant incursions of dakáits from across the Ganges. Such are the facilities for concealment afforded by the dense jungles and islands in the Ganges covered with *sisu* forest that no establishment of police could successfully cope with them." In 1836-37 a new settlement was made for five years. Cultivation had decreased: out of 25 villages, 11 only were inhabited; in three others there was a little cultivation, and 11 were altogether waste. This state of things was due to two causes, the general unhealthiness of the climate and troubles from dakáits. Owing to the latter cause one village was wholly and two were partially abandoned during the previous settlement, and were now

handed over to the farmer of forest produce. The former settlement amounted to Rs. 3,673, and the new one to Rs. 3,718, including Rs. 25 fees paid by gold-washers. At the expiration of this settlement in 1841 it was continued for another year, and then the low-land portion of talukas Chandi and Mahuakot were annexed to the new district of Bijnor in October, 1842. These comprised then seven inhabited and four waste villages assessed at Rs. 719; grazing dues, Rs. 300; forest dues, Rs. 4,818, and gold-washing Rs. 32; total Rs. 5,869. The boundaries were Kunáo on the north close to the Ganges and the exit of the Rawásan stream on the east.

Chandpur.—A parganah of Garhwál, contains eight pattis or sub-divisions, each of which is separately noticed, *viz.*, Chandpur, Síli, Chandpur Taili, Choprakot, Cháuthán, Dhaijyúli, Lohba, Ránígadh, and Sirgúr. The assessment of the land-tax at the various settlements was as follows:—

1815.	1816.	1817.	1820.	1823.	1828.	1838.	1840.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
5,092	5,916	6,432	7,850	8,992	9,345	9,425	9,190	

At the last settlement there were 296 estates comprising 414 villages, containing an assessable area of 14,427 acres, of which 12,667 were cultivated. The land-revenue of 1861 amounted to Rs. 8,820, of which only Rs. 40 were assessed on *gúnth* lands; of the current assessment Rs. 189 are alienated. The water mill-rent amounted to Rs. 488. The land-revenue falls on the total assessable area at Rs. 0-11-5 per acre, and on the cultivation at Rs. 0-13-1 per acre. The population in 1841 amounted to 11,032 souls (5,734 females); in 1853 to 25,017 (12,409 females); in 1858 to 22,950 (11,181 females); in 1872 to 31,381 (15,738 females); and in 1881 to 35,489 (18,153 females). Chandpur is the central parganah of Garhwál and is characterised by lofty and steep mountain ranges covered with forest, which separate the Pindar from the Rámganga, and the different streams which form the latter river from each other. Síli and Taili Chandpur possess some fine villages on the lofty slopes around the fort which was the seat of the first rulers of Garhwál as a whole before Dewalgarh and Srínagar were founded.[1] Many of the villages consequently belong to the Purohits of the Rájas, Brahmans of the Kandúri clan. "Lohba, from

[1] Gaz. XI. 524, 526, 603.

its position on the frontier between Garhwál and Kumaon," writes Batten, "was the scene of conflicts between the forces and inhabitants of the two rival districts; and owing to this and similar posts along the whole line of frontier, the Gorkhális were kept out of Garhwál for twelve years after they had obtained possession of Kumaon.[1] The people of Lohba are consequently a fine manly race, and at present make very good soldiers. Patti Choprakot extends from east to west over a large space of wild country, and in some parts the villages are but scantily interspersed along the high wooded ranges. The people are for the most part poor, except at the south-east extremity, which borders on Páli in Kumaon, and approaches in fertility and population to the prosperous state of its neighbourhood. The good effects of the settlement in 1840 soon became apparent, especially in Choprakot, and some villages in the neighbourhood of Kainúr, where was formerly a tahsíldári establishment, and its abolition had removed one market for the sale of produce. The people of Choprakot also have not the benefit enjoyed by those of Lohba and Chandpur, of the pilgrim road running through their district. Good paths, however, now exist over the high ranges on every side, and communication with Srínagar, Kumaon, and the northern parganahs from which the landholders have to procure their salt and wool, has become comparatively easy. A good road along the line of the Nyár river and over the southern mountains now connects this tract with the principal routes leading to the markets of Rámnagar and Kotdwára and other marts for hill produce at the foot of the hills. Large quantities of hemp of the very best quality, in addition to grain, are grown.

Chandpur Sili,—a patti of parganah Chandpur, in British Garhwál, is bounded on the north by the Pindar river, which separates it from Kapíri; on the west by patti Taili Chandpur; on the south by pattis Choprakot and Lohba, and on the east by patti Sirgur. It was formed from Chandpur in 1864. The patwári of this patti resides at Kewar and collects the revenue of pattis Karakot and Sirgur, also which in 1864 aggregated Rs. 2,743 for *sadábart* and land-revenue, and Rs. 53 for *gúnth* paid by 6,075 souls. Chandpur Síli occupies the valley of the Bharárágár, a

[1] See Gaz. XI. 566, 570, 572.

tributary of the Pindar, and the tract between it and the Pindar to the north. The principal villages are Adbadri (*q.v.*), Khál opposite the old Fort of Chandpur, Beni-Tál with a tea factory, Bhagoti with a school, Simli, Ratora, and Bugoli in the Pindar valley. The peaks of Bintál rise to 8,300 and 7,479 above Málsi and Adbadri respectively, by which the road from Lohba to Karnprayág passes on to Simli on the Pindar. There are iron mines at Búdera, Chulakát, Gabúpani, Gaundiya, Bamli, and Rájbunga in working order and old mines at Naunyálu, Rái, Púrna, Agura-Totnair, Lamlyána, and Rátapahár. There are old copper mines at Bagoli, Satúwa, Jasyáni, Khargaunda, Kalsaun Nagara, and patti Kamala.

Chandpur Taili,—a patti of parganah Chandpur, in British Garhwál, is bounded on the north by patti Ránígadh; on the west by pattis Kandársyún and Bachhansyún; on the south by pattis Dhaijyúli and Choprakot, and on the east by patti Chandpur Síli. The patwári of this patti usually resides at Simli and collects the revenue of Kapíri also; both aggregating in 1864 Rs. 2,162 for *sadábart* and land-revenue, and Rs. 278 for *gúnth* paid by 5,085 souls. In 1864, six villages were transferred to Kandársyún. The road from Lohba to Páori passes through this patti by Gyúnlad, other villages are Pandwálmi Naini, Bandauli with a school, and Dharkot.

Chandpur Fort,—situate in patti Síli Chandpur and parganah Chandpur of British Garhwál, in latitude 30°-10′ longitude 79°-12′. This fort was the seat of Kanak Pál, the actual founder of the present Garhwál dynasty, and whose descendant, Ajaipál, consolidated the ráj of Garhwál. It has also given its name to the parganah. The fort is situated on the peak of a promontory formed by the bend of a stream flowing some 500 feet below it. The walls and some of the ruins of the dwelling-houses are still standing. The walls must have been very strongly built, as they are formed of large slabs of cut stone; the space within them may be one and-a-half acres. It is said that an under-ground passage was dug from the fort down to the stream as water was only procurable from there, and that the mouth of it is visible near the stream, but no trace of it is to be found in the fort.

There are also two flights of steps, each formed of one solid block of stone, which are said to have been quarried in the Dúdú ke-toli range, a march and-a-half distant from the fort, though the actual place is not now known. It is hard to conceive how these blocks were brought to the spot over such a precipitous country; but the legend is that they were carried by two huge goats, both of which died on arrival at the fort. The road from Lohba to Karnprayág passes close by the walls.

Chandpur-ke-Manda, a village and halting-place in patti Dhángu Talla of parganah Ganga Salán in Garhwál on the route between Hardwár and Srínagar lies in latitude 30°-3′-40″ and longitude 78°-33′-48,″ distant 12 miles 32 poles from Bairaguna, and 10 miles 5 furlongs from Byánsghát. The road hence to Byánsghát keeps along the left bank of the Ganges river passing the Dabari rivulet level and ascending to Kotalibel, 460 yards, total 1m. 3f. 11p. from Chandpur. Hence a short descent and level to Semála rivulet and ascent, level and descent to the ghát rivulet, 4m. 3f. 11p. level and ascent to Kandi-khál and descent to Kul-gadh rivulet, 2m. 4p. Hence level to Bhairon-khál for 2,520 yards and descent to Byánsghát where there is a bridge of 92 feet span across the Nyár river, 1m. 7f. 25p. Thence an ascent of 6f. 20p. leads to the Dharamsálas and encamping-ground. The route from Byánsghát to Srínagar may be by Bidya-koti, 11m. 3f. 12p., and Srínagar, 14m. 7f. 29p. or by Deoprayág 8m. 1f. 37p.: Ránibág 8m. 3f. 26p., and Srínagar 9m. 5f. 18p. The road is hot and low and the quicker marches are recommended.

Changsil or Chángsa-khágo, a high mountain ridge forming the boundary between the Native States of Bisáhr and Garhwál; also a pass on the road between those states leading up the valley of the most remote feeder of the Baspa. This route is one of great difficulty and danger as, except during the rains, it is blocked up by snow. Gerard in 1818 vainly tried to induce a guide to conduct him over it, though in former times it seems to have been used frequently by Kunáwari free-booters. Some notion of its difficulty may be gathered from the fact that Gerard, a few days afterwards, crossed the Charang Pass, having an elevation of 17,348 feet without interruption while this was deemed impracticable. In the Great

Trigonometrical Survey, a cone with an elevation of 21,178 feet is laid down, in latitude 31°-13′-0″ and longitude 78°-35′-0″; and a comparison of this position with that assigned to the pass by approximation in Gerard's map of Kunáwar will indicate that the cone is about two miles south-west of Chángsil, which must consequently have a very considerable elevation. The position is laid in Gerard in latitude 31°-14′-0″ and longitude 78°-33′-0″.

Chamnaon, a halting-place on the road from Páori to Almora and Rámnagar, in patti Kimgadigár of parganah Chaundkot in Garhwál, lies in latitude 29°-56′-50″ and longitude 78°-55′-40″: distant 12 miles 25 poles from Toli and 12 miles 7 furlongs 29 poles from Kúnjoli. The road hence to Kúnjoli descends across the Machhlád river at Rájsera, 1 mile 3 furlongs 36 poles, and thence passing the Silet stream, ascends to Ubotdhár, whence a level stretch brings it to the Kamera stream, 1 mile 6 furlongs 11 poles. From Kamera, an ascent leads to Seriyadhár, crossing the road from Kotdwára to Rámnagar, quarter of a mile on; thence by Bina, Chaubat-khál and Bhúichilam to Tilkhani-khál, 5 miles 3 poles. The road then descends to the Chhánchirau bridge, 1 mile 3 furlongs 15 poles, and passes by the Garhkot rivulet to Kúnjoli (3 miles 2 furlongs 4 poles) on the left bank of the Pachrár-gadh. The stage to Toli has been noticed under TOLI.

Chárál Malla, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Regarubán and Gúmdes; on the west, by Súibisang and Sipti; on the east, by Gúmdes and Khilpattiphát; and on the south by Chárál Talla. This patti was separated from Chárál at the recent settlement. The principal villages are Khún and Majerha. The assessable area and other statistics of the Malla and Talla pattis may be shown thus :—

Chárál.	Assessable area in bisis.				Assessment in Rupees.				Population.	
	Total.	Cultivated.		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Malla ...	1,182	85	516	581	300	353	471	806	894	715
Talla ...	3,190	384	1,493	1,313	511	1,068	1,221	1,905	1,492	1,381

The land-tax falls on the whole assessable area at Re. 0-10-11, per acre, in the Malla and at Re. 0-9-7, per acre, in the Talla patti; the incidence on the cultivation being Re. 1-5-5 and Re. 1-0-3 per acre respectively. The revenue-free holdings for temple and personal service amount to 19 *bísis* in the Malla and to 288 *bísis* in the Talla patti. Chárál gave two villages to Khilpattiphát, five to Sipti, six to Súibisang, and two to Tallades at the recent settlement, and received two from Tallades. The patwári usually resides at Champáwat, where there is a school.

Chárál Talla, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Chárál Malla; on the west by Gangol; on the south by Palbelon Malla; and on the east by Khilpattiphát and Tallades. This patti was separated from Chárál at the recent settlement. The principal villages are Chaikúni-Bora, Champáwat, and Phúngar. The patwári usually resides at Marlak. The statistics are given under the Malla patti. A few villages of Chárál are high in the mountains and a few in the forest, but the greater number are on a level. Umba Datta writes: "The cultivation is extensive and the climate excellent; but in the winter, men and cattle are nearly all obliged to leave their homes and repair to the Bhábar. On this account the spring crops are neglected and poor. The four tribes of Tarági, Bora, Chaudhri, and Karki or Kharku and their headmen or Búrhas were in former days counted great men, and held their lands rent-free in jágír. Up to 1816, their homestead villages remained revenue-free, but these also were then placed in the revenue-paying area. The Búrhas of each tribe were honored with *búrhachári* as well as *thokdári* leases; their brethren, though having no other means of livelihood, are still, from family pride, averse to personal labour in the fields and to load-carrying, and many of them have become poor."

Chaubhainsi, a patti of parganah Dhyánirau in Kumaon, is bounded on the north by Mahryúri Bichhli; on the west by the same patti and Bísjyúla, on the south by the latter patti; and on the east by Bísjyúla and Malli Rau. The assessable area comprises 1,780 *bísis*, of which 891 are culturable and 889 are cultivated (six irrigated). The land-tax amounted to Rs. 808 in 1815, to Rs. 815 in 1820, and to Rs. 803 in 1843. It is now

Rs. 1,129, which falls on the total assessable area, at Re. 0-10-2 per acre, and on the cultivation at Re. 1-6-4 per acre. The population, at the time of settlement, numbered 26,518 souls, of whom 12,400 were females. This patti comprises the basin of the Ladhiya river, and extends from Deo Dhúra on the north to the Bhábar on the south, occupying the high ranges which separate Dhyánirau from Chhakháta and Mahryúri. The chief possession of the people consists in large herds of cattle for which the mountains afford admirable pasture-grounds, and which they take down in the winter to Chorgaliya and other places in the Bhábar. Some of the villages, such as Dini and its hamlets Maithi and Majhiáli, are large and populous. The patti yields most abundant crops of rice and wheat, as well as of the coarser grains and turmeric; the *básmati* rice of the *sera* (irrigated) land being very famous, but it is not favourably situated in regard to markets. The irrigated lands at Kulyál and Chaunda, which form so beautiful a tract on the banks of the Ladhiya belonging chiefly to the three tribes of Bora, Mahta, and Kulyál, and their headmen are accounted wealthy. One village was transferred to Bísjyúla, two to Chaugadh and four to Talli Rau, at the recent settlement; whilst one was received from Talli Rau. The patwári usually lives in Pataliya.

Chaudáns, a patti or sub-division of parganah Dárma in Kumaon, lies between the Káli and the Dhauli from their confluence northwards. It is only about 12 miles in length, and about eight miles in breadth, containing probably about 100 square miles of mountainous country between Khela and Nirpaniya-dhúra. The inhabitants are Bhotiyas who occupy some eleven villages assessed at only Rs. 210 per annum, *viz.*, Búngtúng, Jyúnti, Rúng, Pungla, Chhalma-Chhilasaun, Pinala Bhatkot, Suwa, Tantagáon-raunta, Sosa, Dharpungo, Sirdang, and Sirkha. The total assessable area is 616 *bísis*, of which 442 are cultivated, and the population at settlement numbered 780 souls (360 females): see BHOTIYA MAHÁLS. The patwári usually resides at Sosa and there is a school at Sirdang.

Chaugadh, or Chaugarh, a patti of parganah Dhyánirau in Kumaon, is bounded on the north by Chhabís-Dumaula, Bisjyúla, Malli Rau and Talli Rau; on the east by Talli Rau; on the south by the Dhyáni Rau Bhábar; and on the west by Chhabís-Dumaula

Chaugadh was separated from Patti Talli Rau at the recent settlement. The total assessable area comprises 2,983 *bísis*, of which 1,026 are culturable and 1,956 are cultivated (52 irrigated). The land-tax, at the conquest, amounted to Rs. 418, which rose in 1820 to Rs. 650, and in 1843 to Rs. 785. It is now Rs. 1,819, which falls on the total assessable area at Re. 0-9-9 per acre and on the cultivation at Re. 0-14-10 per acre. The population, at the time of settlement, numbered 2,754 souls, of whom 1,485 were males. Seven villages were received from Malli Rau and two from Chaubhainsi at the recent settlement. The patwari resides in Gágari, where there is a school.

Chaugaon, a patti of parganah Phaldákot in Kumaon, is bounded on the north by Athágúli Walla ; on the west by Malli Doti ; on the south by Dhúraphát ; and on the east by Ryúni, Dwársaun, and Kandárkhúwá. The road through Khairna to Ránikhet passes through it, along the Kuchgadh stream. The principal villages are Bajua, Chamoli, Khagyár, Khyúnsálkot, and Túnakot. The assessable area comprises 2,791 *bísis*, of which 514 are culturable and 2,277 are cultivated (97 irrigated). The land-tax yielded Rs. 1,879 in 1815 ; Rs. 2,070 in 1820 ; Rs. 2,275 in 1843 ; and is now Rs. 2,919, which falls on the total assessable area at Re 1-0-9 per acre, and on the cultivation at Rs. 1-4-6 per acre. The population at settlement numbered 4,926 souls, of whom 2,491 were males. Chaugáon gave five villages to Dhúraphát, three to Kandár-khúwa, three to Malli Doti, and received 10 from Dhúraphát at the recent settlement. The patwari usually resides in Bamsyún, where there is a school.

Chaugarkha, a parganah in Kumaon, contains eight pattis, each of which is separately noticed—*viz.*, Dárún, Kharáhi, Lakhanpur Malla and Talla, Ríthágár, Rangor, and Sálam Malla and Talla. It comprises 362 mahál or estates containing 474 villages. The assessment of the land-tax at each successive settlement was as follows :—

1816.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,991	4,433	5,046	6,776	7,644	7,677	7,800	8,012	15,871

The total assessable area comprises 22,306 *bísis*, of which 7,235 are culturable and 15,071 are cultivated (723 irrigated). The land

revenue falls on the total assessable area at Re. 0-11-5 per acre, and on the cultivation at Re. 1-10-0 per acre. The population, at the time of the present settlement, numbered 14,802 males and 12,643 females: in 1872, 17,766 males and 12,534 females, and, in 1881, 15,416 males and 14,385 females. One thousand three hundred and forty-five *bísis* are held free of revenue for the support of temples, and 163 *bísis* in *muáfi*. The Sarju forms the boundary to the north and east, as far as its junction with the Panár: the latter forming the great drainage channel for all the southern portions of the parganah. To the west, the drainage falls into the Suwál, an affluent of the Kosi, which in its turn joins the Rámganga and the Ganges. Thus we have in the centre of the parganah, near the Saimdeo ridge, spots, within a few yards of each other, where springs are found which go to feed the Ganges on the west and the Sárda on the east, whose waters do not again mingle until the extreme southern point of the North-Western Provinces is reached in the Ballia district. The name of the parganah is derived from its four principal pattis, Sálam, Lakhanpur, Dárún, and Rangor. The two former are highly cultivated and thickly inhabited, the *talláon* or valley lands, especially in Sálam, being famous for crops of the finest rice; whilst the *uparáon* or uplands have generally a good soil which produces hemp of fine quality. These portions are occupied chiefly by Bisht, Banola and Diúri Rájpúts, and, in Lakhanpur, Tiwári and Pande Brahmans are numerous. The road to Pithoragarh from Almora, crossing the Suwál river at Supai, passes through Lakhanpur. The Dárún sub-division is celebrated for the great temple of Jageswar noticed elsewhere. The noble scenery of the range on which the temple is built is still further beautified by one of the largest groves of *deodár* trees still existing in Kumaon. The *patti* is, however, poor, and the portion near the Sarju is still backward in cultivation: both this patti and Rangor resembling Gangoli in many respects. The lower portions of Ríthagár are unhealthy and backward, whilst the uplands are well cultivated and thickly inhabited. The mineral deposits of Kharáhi are well known, though little worked. They consist of copper mines at Gaulgaon, Kapsu and Agar, and iron mines at Lobh. There are copper mines also at Chimakholi in Rangor and iron mines at five places in the same patti, four in Dárún, two in Lakhanpur Malla, and one in Sálam Malla, all let for

Rs. 626 per annum. The remains of the fort of Padyárkot are the only traces of the independent Khasiya Rájas of this parganah now existing.

Chaukot Malla, a patti of parganah Páli Pachhâon in Kumaon, is bounded on the north by Chauthán and Lohba of Garhwál; on the west by the former patti; on the east by Lohba and Palla Giwár, and on the south by Bichhla Chaukot and Talla Giwár: 33 villages were received from the Talla patti and 16 transferred to it, and 46 were transferred to Giwár Talla at the recent settlement. The entire patti is drained by the tributaries of the Binau river, an affluent of the Rámganga, of which the two eastern branches drain the Chauthán patti in Garhwál. The road from Almora to Srínagar by Ganái runs from east to west through this patti by Goluna, Khelâni bungalow, and Bhakurha. The patwári usually resides at Deghát, where there is a school. The principal villages are Chintoli under Nágchúla, Uprárhi, Bharsoli, Kotsari, Kamaleswar, Pátharkhola, Ghúgúti, Goluna, and Jaikhál. There is an old temple at Taldhár under the Lálnagari peak (5,348 feet), close to the road, but of no importance. The statistics of the Malla Bichhla and Talla pattis may be shown thus :—

Chaukot.	Assessable area in *bisis*.				*Assessment in rupees.*				*Population.*	
	Total	*Cultivated.*		Cultivable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigation	Dry.							
Malla ...	5,102	104	3,861	1,136	1,732	2,278	2,425	3,576	3,419	3,160
Bichhla ...	5,124	106	3,903	1,115	1,797	2,491	2,552	4,178	3,314	3,049
Talla ...	3,893	93	3,169	625	1,204	1,709	1,877	3,310	3,198	3,033

There are small patches of revenue-free land in each patti. The incidence of the land-tax per cultivated acre in the Malla patti is Re. 0-14-5, in the Bichhla is Re. 1-0-4, and in the Talla is Re. 1-0-8 per acre.

Chaukot Bichhla, a patti of parganah Páli Pachhâon in Kumaon, is bounded on the north by Garhwál and Malla Chaukot; on the south by Garhwál and Talla Chaukot; on the west by Garhwál; and on the east by Talla Chaukot. This patti was formed from pattis Malla and Talla Chaukot at the recent settlement. It occupies the upper valley of the Khátligadh, a tributary of the Eastern Nyár river on the west, and the Binau river, a tributary of the Western Rámganga on the east. The road from Almora to Srínagar by Másí passes through the centre of the patti from east to west from Diúli to Saráikhet. The principal villages are Bhakuna, Chakragáon, Kahadgáon, Timli, Jaspur, Tanba-Dhaund, Masmoli, Udepur, and Chanoli. The ridge forming the waterparting between the eastern and western divisions contains the peaks of Banj-ki-dera and Juniyagarh (6,780 feet). The statistics will be found under CHAUKOT MALLA. The patwári usually resides at Jaspur, and there is a school at Syálde.

Chaukot Talla, a patti of Páli Pachhâon in Kumaon, is bounded on the north by Chaukot Malla; on the west by Chaukot Bichhla and Malla Sult; on the east by Talla Giwár and Walla Nayan; and on the south by Malla Sult and Palla Nayan. It contains on the west the Potgadh-ke-rauli and its tributary stream, and on the north-east the lower course of the Binau stream, both feeders of the Rámganga, which they join on the right bank, the one near Dúngari and the other at Budha-kedár. The principal villages are Airárhi Bisht and Rájbár, Khadalgáon, Nail, Parthola, and Chachroti. The entire patti is highly cultivated and thickly studded with villages. The statistics of permanent value will be found under CHAUKOT MALLA. The higher portions of Chaukot are less fertile than the more central pattis, but are compensated by better climate and pasturage; and now that the border warfare with Garhwál has ceased, cultivation has considerably extended; but there is still great room for expansion. Thirty-three villages were transferred from this to the Malla patti and 16 villages were received from it at the recent settlement. The patwári usually resides in Gumti, where there is a school.

Chaundkot, a parganah of the Garhwál district, contains seven pattis or sub-divisions, each of which is separately noticed, *viz.*, Gorársyún, Jaintolsyún, Kimgadigár, Maundársyún, Mawálsyún,

Pingala Pákha, and Ringwársyún. The assessment of the land-revenue at the various settlements was as follows :—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
2,222	2,603	2,909	3,270	3,881	3,951	4,052	4,065	7,445

At the recent settlement, there were 184 estates comprising 287 villages and containing a total area of assessable land, amounting to 11,461 acres, of which 10,580 acres were cultivated. The land revenue of 1861 amounted to Rs. 4,558, and the new assessment to Rs. 7,445, of which Rs. 309 were on account of alienated lands. The water-mill tax amounted to only Rs. 10. The land revenue falls on the total assessable area at Re. 0-10-4 per acre and on the cultivation at Re. 0-11-3 per acre. The population in 1841 amounted to 7,130 (3,281 females); in 1853, to 13,648 (6,782 females); in 1858, to 13,543 (6,617 females); in 1872, to 22,060 (11,207 females) and in 1881, to 23,403 (12,126 females). Chaundkot is bounded on the north by Bárahsyún and Chandpur and on the south by the Salán parganahs. In many respects it resembles Kumaon, and is drained on the east by tributaries of the Rámganga and on the west by the Nyár. It is further noticeable for the almost entire absence of all forests, except towards the fort which gives its name to the parganah. The grain crops are remarkably abundant, but, except in the cold weather, when the people can proceed to the plains, there is no good market for the surplus produce near. The people have the reputation of being eminently litigious, and bear the character amongst the more simple Garhwálís of being almost as deceitful and cunning as the lowlanders. Clay slate, mica slate and limestone, with occasional granite are the prevailing rocks.

Churáni or Churánidhár, a village and encamping-ground on the Eastern Nyár river, in patti Iriyakot of parganah Malla Salán in Garhwál, lies on the route from Páori to Dháron, in latitude 29°-3′-42″ and longitude 78°-56′-30″, distant 12 miles 5 furlongs and 27 poles from Chamnáon, and 12 miles 2 furlongs 29 poles from the Mandhál river encamping-ground near Kartiya. The road from Chamnáon crosses the Machhlád river at Rájsera, 1 mile 3 furlongs 36 poles, and thence passes by the Silet rivulet up to Ubotdhár, and level to the Kamera rivulet, 1 mile 6 furlongs 11 poles, whence an ascent to Seriyadhár

of about 600 yards to the road leading to Rámnagar; from this, the road descends to the Kandoli rivulet, and, ascending to Deorari Devi, descends to the Kotai bridge, 1 mile 6 furlongs 2 poles. By Kandota and Ghandiyál, the ascent to the Kunjakhál is reached, and thence, a descent to Gadári, 3 miles 2 furlongs 36 poles. From the Gadári rivulet to the Kola and Pániya-khet rivulets, the road is tolerably level, 1 mile 4 furlongs 36 poles. Thence Siddhi-khál is reached, and an ascent of 800 yards, before the descent to the ford across the eastern Nyár, on each side of which there is an encamping-ground. The river is here 140 feet wide with a bed of stones and gravel. Churánidhár village lies on the left bank, about 1,020 yards from the river.

Chauthán, a patti of parganah Chandpur in British Garhwál, is bounded on the north and north-east by Lohba; on the west, by Choprakot, Dhaundyálsyún and Meldhár; and on the south and south-east, by Kumaon. This patti occupies the upper waters of the Binau, a tributary of the eastern Nyár. It was separated from Choprakot in 1864, and in 1870 lost one village by transfer to Choprakot. The patwári of Chauthán usually resides in Kapholgaon and collects the land-revenue of Meldhár and Dhaundyálsyún also; all three were assessed in 1864 at Rs. 2,506 for land-revenue and *sadábart* and Rs. 95 for *gúath*, with a population of 5,405 souls, In 1884, there were 4,714 souls. The road from Almora by Ganái to Páori passes through the patti by the Búngidhár bungalow.

Chauthán, a patti of parganah Dhaniyakot in Kumaon, is bounded on the west by Kákalasaun Malla; on the north by the same patti and Silaur Malla and Malli Doti; on the east by Kosyán Malla; and on the south by Kosyán Talla and Uchakot. The road from Dwára to Rámnagar runs through the patti by Binkot and Mana. The principal villages are Binkot, Chyúni, Ghagreti, Siráni and Sunsyári. The assessable area comprises 1,874 *bísis*, of which 337 are culturable and 1,537 are cultivated (139 irrigated). The assessment of land-revenue amounted to Rs. 442 in 1815; in 1820 to Rs. 1,431; in 1843 to Rs. 1,580; and is now Rs. 2,223, which falls at the rate of Re. 1-3-0 per acre on the total assessable area and at Re. 1-7-2 per acre on the cultivation. The population at the time of settlement numbered 3,730 souls, of whom 1,922 were males. The villages are large and flourishing, though few in

number, and benefit by the pilgrim route and the Náini Tál, Ránikhet and Almora traffic. The patwári usually resides in Joshikhola in Kosyán Malla.

Chawalthura, an encamping-ground in patti Bhábar (Pátli Dún) of parganah Talla Salán in Garhwál, lies on the route between Kálú-Shahíd and Páori by the Jwálpa bridge over the Nyár river, and is situate in latitude 29°-39′ and longitude 78°-46′-50″; distant 9 miles 5 furlongs and 8 poles from Bogsárh bungalow in the Pátli Dún valley; and 12 miles 4 furlongs 10 poles from the next stage north, Dugsún. The road from Chawalthúra to Dug ascends the Pilláni river, the eastern branch of the Paláin, to its confluence with the Haldgadi stream; by the left bank as far as Amsot, where it crosses to the right bank, 3 miles 2 furlongs. Thence still up the valley crossing the Khansor stream, a tributary falling into the Pilláni on the right bank, three miles on; it follows north-west the Khansor stream by Káliya under the Háthike-dánda range, Dhautiyál, and the Bánsgár rivulet (3 miles 2 furlongs 28 poles), crossing the stream several times. Here the hill road commences and a good road leads to Dugsundhár by an ascent of 2 miles 7 furlongs 22 poles.

Chhabís-Dumaula, a patti of parganah Dhyánirau in Kumaon, is bounded on the north by parganah Chhakháta and patti Bísjyúla; on the west, by parganah Chhákháta; on the south, by the Dhyánirau Bhábar; and on the east, by patti Chaugadh. Chhabís-Dumaula was separated from Malli Rau at the recent settlement. The assessable area comprises 1,188 *bísis*, of which 347 are culturable and 840 are cultivated (71 irrigated). The land-tax at the conquest amounted to Rs. 295, which rose to Rs. 320 in 1820 and Rs. 468 in 1843. It is now Rs. 1,067, which falls at Re. 0-14-4 per acre on the total assessable area and at Rs. 1-4-4 per acre on the cultivation. The population numbered at the last settlement 2,108 souls, of whom 1,108 were males. The patwári usually resides at Gágari. There is a school at Babyár.

Chhakháta, a parganah of Kumaun, is bounded on the north by Dhaniya Kot, Mahryúri Palli, and Bísjyúla; on the west by Kota Malla; on the east by Chhabís-Dumaula and on the south by the Chhakháta Bhábar. The total assessable area comprises 4,255 *bísis*, of which 1,551 are culturable and 2,703 are cultivated (487

irrigated). The assessment, in 1815, amounted to Rs. 1,519; in 1820, to Rs. 1,698; in 1843, to Rs. 2,204; and the current revenue is Rs. 4,082, which falls at Re. 0-15-4 per acre on the assessable area and Rs. 1-8-2 per acre on the assessable cultivation. Three hundred and forty-four *bísis* are held in fee-simple or free of revenue: one village was transferred to Bísjyúla and four to Dhaniya Kot at the recent settlement. The population, at the time of settlement, numbered 7,107 souls, of whom 3,750 were males; in 1872, 7,122 males and 5,803 females and in 1881, 32,798 males and 23,953 females, the last figures include the lowland population of the Bhábar portion. The parganah comprises 51 mahâls or estates containing 61 villages. The patwári resides at Silanti, where there is a school. The hill portions of Chhakháta and Kota overhang the Bhábar and, with the exception of the north-western extremity of Kota, cover the southern or plainsward slope of the Gágar range from the Gaula on the east to the Kosi on the west. The upper villages of both, accordingly, partake of the ordinary mountain character, the lower of the climate and productiveness of the Bhábar. Chhakháta is said to be derived from *khat* (6), *khashti* (60) and *khát* (lake), or the sixty-six lakes. It occupies the whole basin of the Gaula. The Naini Tál lake forms the source of the Baliya branch of the Gaula river and Malwa Tál, the source of another branch. The Naukuchiya and Bhím lakes each send forth a stream to the Gaula and the collection of lakes and pools known as the Sát Tál send their surplus waters to the Baliya. It is said that Nala and Damáyanti, the hero and heroine of the celebrated story in the Mahábhárat a bearing their name, came during their exile to the pools called after them near Bhím Tál, and that when Damáyanti took up the fish from the lake prepared for cooking, the touch of her divine fingers restored them to life, and they were accordingly committed again to the lake. The fish of Bhím Tál are noted for their broad flat heads and truncated tails, which appear as if the ends had been cut off. Hence the local proverb used when a good arrangement has been made and comes to nought:—

'*Jab ápattia unchhya, kátiya máchha tál jáni.*'

'When misfortune comes, cut up fish go back to the lake.'

The central plateau, near Bhim Tál, contains one of the finest sheets of cultivation in the hills. As observed by Mr. Batten:—

"On the whole, the inhabitants of Chhakhâta are a prosperous race, and amongst them the clans Mahura and Saun-Bisht, who first ventured to push their cultivation beyond the Barakheri pass into the Bhábar (carrying with them to their clearing the name of their hill parganah), are, under the present secure Government, reaping the fruits of their enterprise and are gradually increasing in wealth, retarded somewhat in the case of the Mahuras by their family quarrels and divisions. The people present a contrast to their neighbours in Phaldákot, in being singularly averse to the labour of carrying loads, however profitable. They themselves account for this feeling by saying that their agricultural toils involving, besides their hill tillage, the sowing and reaping of a crop (and sometimes two) in the hot Bhábar, quite incapacitate them for physical exertions of the kind. The Kota people in a less degree affect the same distaste." Under these circumstances the voluntary coolies necessary for Naini Tál are rarely, if ever, natives of the immediate neighbourhood.

Chhirha, a halting-place and traveller's bungalow on the road from Lohaghát to Pithoragarh, distant 10 miles from the former and 17 miles from the latter, in patti Regarúbán of Káli Kumaun. There is a baniya's shop, but no servants at the bungalow.

Chobta, or Chaupatta, a halting-place on the route between Mandal and Ukhimath from Nandprayág, is situate in patti Parkandi of parganah Nágpur in British Garhwál, in latitude 30°-29′ and longitude 79°-14′-30″. It consists merely of a collection of huts in a glade of the forest, and is distant 10 miles 2 furlongs 23 poles from Ukhimath and 11 miles 1 furlong 25 poles from Gopeswar. The road from Gopeswar is undulating as far as Mandal, thence there is a long and tolerably steep ascent for about 7 miles to Chobta. From the Pángarbása dharmsálas (about half way) towards the north-east there is a fine view of a snowy peak and its subordinate ranges. Further on, the road passes by Bhímudiyár, beneath the cliffs forming the southern side of the Chandrasila peak (12,071 feet), on which is the temple of Tunganáth. From Chobta, there is a perfect view of the line of hills lying above the route to Kedárnáth and of the Kedárnáth and Chaukhamba peaks themselves, as well as of the summits of the Badrináth peaks. The peaks of Kedárnáth seem to be precipices almost perpendicular,

no snow finding a resting-place on their grey sides. The Chaukhamba peak appears like the crater of an extinct volcano with walls still standing and hollow inside ; that facing the south is the smallest and lowest. Diúri Tál is distant from here about seven miles, and the summit of Chandrasila between three and four miles.

Choprakot, a patti of parganah Chandpur in British Garhwál, is bounded on the north by Bidolsyún, Kandársyún, and Dháijyúli ; on the west, by Ghurdursyun ; on the south, by Bangársyún and Dhaundyálsyún, and on the east, by patti Lohba. Six villages of this patti were transferred to patti Kandársyún in 1864. The patwári of this patti usually resides in Kanyúr and collects the land revenue of Dháijyúli and Bangársyún also, aggregating in 1864, for land revenue and *sadábart*, Rs. 2,569 and for *gúnth* Rs. 20, with a population of 5,955 souls : in 1881 there were 7,375 souls. The patti contains the upper valley of the Kál-gadh, a tributary of the eastern Nyár and the sources of the latter stream.

Dába, a mart in Hundes, in the Punkag of Kyungbuchya and province of Nári, is situate in north latitude 31°-13′-50″ and east longitude 79°-58′-50″, at an elevation of 14,000 feet above the level of the sea. It comprises a small collection of mud and stone huts, which in the summer are increased by the tents of the Huniya and Bhotiya traders from Níti and Milam. The stages from the Balchhadhúra pass beyond Milam are Jánkáng, Kanchego, Dákhar, Shokong, Manum, Shikyak, Dongpu, and Dába. The Zungpun of Dába has charge of the Níti and Juhár passes.

Dabka, or Dubka, a stream rising on the southern declivity of the Gágar range south of pattis Uchakot and Dhaniyakot and forming, during the upper part of its course, the boundary between Malla and Talla Kota in Kumaon, has its sources in north latitude 29°-30′ and east longitude 79°-22′. The Gágar range here rises to 8,408 feet in Badhán-dhúra, 8,244 feet in an intermediate peak, and 8,612 feet in Sonchuliya, the most eastern of the three. The Dabka holds a south-westerly course for about twenty miles to the village of Baruwa-dáng, where it finally passes from the mountains by the Baruwa peak (1,209 feet). In this part of its course, it crosses the Kota Dún by Ukali, Rámdatta, Dohaniya, and Debi-Rámpur, whence it crosses the low hills, representing the Siwáliks here, receiving on the right bank the Khicharhi torrent. The Dabka is

here everywhere fordable, except after heavy and continued rain, and then only for a few hours; but in the Kota Dún it is frequently impassable after a heavy downfall, and the size and number of the boulders in its bed there confirm what the people say of it, that it is a good servant, but a bad master. Its name, too, from '*dubna*', 'to overwhelm,' confirms this statement. From Baruwa-dáng, it is known for a short distance as the Gatiya, then as the Gúghi, and lower down as the Nihál, when, after a course of about ninety miles, it joins the western Rámganga on the left bank. The Dabka is crossed by the road from Morádabad to Káladhúngi.

Dalmisain, a village and halting-place on the road between Páori and Kotdwára, is situate in latitude 29°-50′-1″ and longitude 78°-38′-12″ in patti Talla Sílá of parganah Talla Salán in British Garhwál, distant 10 miles 6 furlongs and 33 poles from Gúín-páni, the previous stage, or 13 miles 4 furlongs 20 poles from Barsúri and 9 miles 6 furlongs 33 poles from Kotdwára. The road hence to Kotdwára follows the valley of the Koh or Khoh river, along the left bank, passing the Do-gadh rivulet by a bridge near the junction with the road from Kotdwára to pattis Taláin and Khátali, 1 mile 3 furlongs 36 poles; thence to Dúrga-devi slightly undulating, and the latter part of the road along bad precipices, 1 mile 7 furlongs 16 poles to Amsaurh and Makhi-bhel, 2 miles 6 furlongs, from which it is 3 miles 5 furlongs 21 poles along a tolerably level road to Kotdwára.

Dánpur, a parganah of Kumaon, comprises eight pattis, each of which is noticed separately, *viz.*, Dánpur Malla, Bichhla and Talla, Dúg; Katyúr Malla, Bichhla and Talla, and Nákúri. The assesment of the land-revenue at the different settlements was as follows:—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,583	3,966	4,280	4,613	5,746	5,853	5,958	5,920	15,362

The incidence of the present land tax is Rs. 0-12-11 per acre on the entire assessable area, and Rs. 1-9-1 per acre on the cultivation. The assessable area comprises 19,019 *bísís*, of which 9,210 are culturable, and 9,809 are cultivated (3,976 irrigated). One thousand three hundred and sixty *bísís* are held as *gúnth* and 287 free of revenue. There are 316 mahál or estates comprising 517

villages, inhabited by 10,097 males and 8,769 females. In 1872, the population numbered 23,339 souls, of whom 11,094 were females; and in 1881, there were 17,817 males and 15,607 females. Batten's remarks on this parganah are applicable, for the most part, at the present day :—

"At the base and from the spurs of Nandadevi and its neighbour Nandakot rise the three rivers which give a character to the parganah and separate its eastern part into three great valleys, *viz.*, those of the Pindar, the Sarju, and the eastern Rámganga, while its western half is drained by the Gomati and its affluents, uniting with the Sarju at Bágeswar. This last-named place, and the ruins of the most ancient seat of hill power at Baijnáth, render the western division, or Malla and Talla Katyúr, locally illustrious ; made still more so by a tradition that when the years of sanctity for Hardwár and the Ganges shall have been accomplished, the river virtue will be transferred to the Sárda, and be found chiefly glorified on the Sarju at Bágeswar. The agricultural prosperity of Dánpur and Katyúr is not great : where the soil is best, and where facilities for irrigation abound, there, unhappily (as for instance in the hot glen of the Sarju), the climate is inimical to the increase of population, and the exceeding heaviness of the jungle tends to perpetuate the animal scourges of the hills. The state of Katyúr has improved in the lower patti of which at and towards Bágeswar the cultivation has increased, and the climate has proportionately improved ; and in the upper patti of which, where it has been always most difficult to understand the causes of unhealthiness, a visible addition to the land under tillage and some restoration of inhabitants to deserted spots have occurred. Still the broad valleys of the Garura and Gomati at nearly 4,000 feet above the sea are as yet incompletely occupied.

At one time, too, from the citadel of Ranchúla, above their capital Katyúr, the ancient rulers of the hills must have looked down and around on an almost unbroken picture of agricultural wealth, for, not only in the valleys, but up three-fourths of the mountain sides, now covered with enormous forests of pine (specially in the west and south-west towards Gopálkot and the other great fountain-heads of the Garura and Kosi) the well-built walls of fields remain in multitudinous array, terrace upon terrace, a monument of former industry and populousness, and only requiring the axe to prepare an immediate way for the plough. The valley of Baijnáth, being situate on the frontier of Kumaon with Garhwál, and in the neighbourhood of Badhán fort, was often in all probability the scene of border conflicts and military exactions ; and the desertion of villages once having commenced, and no means of restoring the population being at hand, the deterioration of climate, originating in the spread of rank vegetation and the neglect of drainage may be supposed to have gone on from bad to worse till finally the heat and moisture rendered it what it was in the earlier days of our rule, the most backward, unhealthy, and jungly portion of the district. The opening up of tea plantations and the increase of cultivation has done much to improve the character of the climate."

"The Dánpur patti was first divided into Upper and Lower Dánpur at the second triennial settlement on account of the great diversity in the situation

and climate, and consequently in the agricultural produce and the customs of its inhabitants. In the Upper patti, *pháphar* and other coarse grains are alone possible in the rains; whilst in the spring, the produce differs in no respect, except fertility, from the rest of the province. Its inhabitants are remarkable for their industry, and derive considerable profits from the manufacture of blankets, mats, baskets, and the rearing of goats and sheep for the Bhotiya trade, on all of which there was a tax, now remitted. In the old Chand records the area of Upper Dánpur was entered in *káchhas*, *máshas* and *ratis*, and in the Gorkháli books in *jyúlas*. In Lower Dánpur, a large increase in revenue was obtained by the bringing on the rent-roll small villages which had been reclaimed, and were then discovered for the first time. The people of Dánpur declare themselves to be descendants of the Dánavas of mythology, just as the people of Káli Kumáon declare that they are of Daitya origin. The oldest inhabitants were a tribe of Khasiyas called Wohiliya, of whom no traces now remain. The Dánpuris are considered to be of a lower class by the other hill people further south, and they are certainly alone in the worship of the deified Khasiyas, Lál Dána, Dharm Sinha, Dána, and Bír Sinha Dána. They have numbers of quaint legends of their own. Thus they say that the Kawa-lekh, a snowy peak above the Sundar-dhúnga, is the paradise of crows, who all seek to die there: and if they die elsewhere, some crow brings a feather of the dead one and deposits it with the rest. Another local legend is related to explain why a bear is held to be as wise as a woman: in former days a woman dressed in white killed her husband and was expelled from society, when she became a bear, and the whiteness of the bear's breast represents the white clothes worn by the woman."

Dánpur Malla, a patti of parganah Dánpur of Kumáon, is bounded on the south by Talla and Bichhla Dánpur; on the west, by parganah Badhán of Garhwál; on the east, by Bichhla Dánpur and Malla Juhár; and on the north, by the peaks of Nanda Devi and Nandakot. The road from Almora to Milam branches off at the southern boundary to the east, and the road to the Pindari glacier runs straight north. The statistics of the Malla, Bichhla and Talla pattis may be shown thus:—

Dánpur.	Assessable area in bisis.				Assessment in rupees.				Population.	
	Total.	Cultivated.		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Malla ...	2,822	156	1,539	1,125	1,320	1,290	1,351	1,794	2,021	1,881
Bichhla ...	1,742	347	415	979	517	464	519	1,341	910	826
Talla ...	2,793	653	594	1,544	347	565	693	2,064	1,376	1,182

The assessment on the cultivated acre falls at Rs. 1-0-11 in the Malla patti, at Rs. 1-12-2 in the Bichhla patti, and at Rs. 1-10-5 in the Talla patti. The principal villages are Bauro, Chaurh, Dhokuti, Dubárh, Súpi, and Sorág. Twelve villages were transferred to the Talla patti, which also received 10 from Katyúr Malla at the recent settlement, and gave over eight to Dúg and one to Kamsyár. The patwári usually resides at Lwárkhet; there is a school at Pharsáli. There are iron mines at Karmi in the Malla patti and at Jagthána in the Talla patti.

Dánpur Bichhla, a patti of parganah Dánpur in Kumaon, is bounded on the north and west by Dánpur Malla; on the east by Tallades, and on the south by Dánpur Talla, Nákúri, and Pungaráon. This patti was separated from Malla Dánpur at the recent settlement. The statistics are given under DÁNPUR MALLA. The principal villages are Bhandár, Líti, Naukorhi, and Barhet. Two villages were received from Pungaráon at the recent settlement. The patwári resides at Líti, where there is a school.

Dánpur Talla, a patti of parganah Dánpur in Kumaon, is bounded on the north by Garhwál and Malla Dánpur; on the west by Malla and Talla Katyúr; on the south by Talla Katyúr, Dúg, and Nákúri; and on the east by Nákúri and Bichhla Dánpur. The Sarju flows through it from north to south-west, to a little below its confluence with the Kanálgár. The road to Milam lies along the right bank of the Sarju up to Kapkot, where the patwári resides. There is a school at Silgani. Other important villages are Bairha-Majhera, Harsil, Mallades, and the Photing villages above Kapkot on the right bank of the Sarju. The Nákúri temple lies to the east of the Hagdámi peak (7,083 feet) near Udiyár. The Tapalpain peak, on the southern boundary and same side of the Sarju, attains a height of 6,752 feet. To the west of Photing, on the right bank, Jakhári rises to 7,815 feet and Chirpatkot on the boundary of Malla Dánpur and close to the river rises to 6,637 feet. The Kanálgár, rising in the Jagtana peak and flowing first south-west under the name of the Daurágár around the northern face of the Chunár peak (6,156 feet), then turns south-east between it and the Bor peak (6,652 feet) and passing by several small villages falls into the Sarju on its right bank a few miles above Bágeswar. Samati on the Paunsárigadh, a tributary of the Kanál,

is in this patti. Portions of Talla Katyúr were transferred to this patti at the recent settlement, and portions of this patti were added to the new pattis of Dúg and Nákúrí (for statistics see DÁNPUR MALLA).

Darma, a parganah in Kumaun, comprises four pattis, *viz.*, Dárma Malla and Talla, Byáns, and Chaudáns. The history of the assessments shows the following results:—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
4,518	5,766	4,530	1,225	1,345	1,368	1,405	1,400	1,886

The land tax now falls at Rs. 0-12-5 per acre on the total assessable area and at Rs. 1-1-1 per acre on the cultivation. The whole area liable to land revenue amounts to 2,347 *bísís*, of which 639 are culturable and 1,107 are cultivated (271 irrigated). There are only 37 maháls or estates comprising 43 villages and supporting a population of 4,701 souls, of whom 2,138 are females. Forty-seven *bísís* are held free of revenue. Dárma proper is now divided into two pattis or sub-divisions: the Malla or upper and the Talla or lower, of which the statistics have been given. The upper patti occupies the valley of the Lissar river and the upper part of the Dhauli; the lower patti lying near the junction of the latter with the Káli. (See article BHOTIYA MAHÁLS.) The patwári resides at Khela Syálápanth.

Dárma Yánkti, a stream, rises on the northern slope of the Lunpiya-dhúra pass into Tibet from patti Byáns in Kumaon, near the *larcha* or *dakhna*, as the foot of the pass is called. The stream here winds quietly through a flat bed, a furlong wide, well strewn with fragments of broken stone. The road hence to Rákas Tál lies along the bed of the stream for some distance, and then along the right bank. Two or three miles further down, at the point where the river turns northward by east, the left bank assumes the straight and regular form, which is characteristic of the ravines to the north, in the Himálaya in this part of Húndes: it resembles a huge artificial dyke running for several miles in a straight line, in a steep slope, which at this end is perhaps 500 feet in vertical height. The name is supposed to be derived from the stream having its origin in the Dárma parganah. Below the *larcha*, the stream is joined by the Silangtar, from the eastward, in a bed of great width and depth,

through a considerable opening in the mountains. Beyond Bhá-witi the view on the road to the west is bounded by the high bank of the Dárma-Yánkti, which to the northward, however, gradually subsides into the lower plain. Further northward it receives another stream, the Gúnda-Yánkti, rising in Dárma, after which the united river takes the name of Chú-gár or Chú-gárh, and lower down receives another tributary that springs from high ground near Ligcheph, a day south of Kyunglung on the Chirchun road. It then runs parallel to the course of the Satlaj, but in an opposite direction: hence the name here of Biphu-kula; '*Biphu*' signifying "contrary." Before becoming the Chúgár, the Biphukula receives the Chúnagu, 'a stream of Dárma' rising a few miles west of the Gúnda-Yánkti. The Chúgár joins the Tirthapuri branch of the Satlaj between Kyunglung and Tirthapuri [H. Strachey J. A. S. Ben. XVII. (2), 98.]

Dárún, a patti of parganah Chaugarkha in Kumaon, is formed from the old patti of that name and part of Lakhanpur. It is bounded on the north, by Ríthágár and the Sarju river, which separates it from Athgaon of Gangoli; on the west, by Ríthágár, Lakhanpur Talla and Malla; on the south, by patti Rangor; and on the east, by patti Bel of Gangoli. It is drained by the Alaknandi river, a tributary of the Sarju, which joins it on the left bank and further south by the Bhaur-gadh, a tributary of the same river separating it from Rangor. The road to Pithoragarh passes through this patti to the east by the Jageswar temple and Naini bungalow (*q.v.*) The total assessable area comprises 3,082 *bísís*, of which 1,311 are culturable and 1,770 are cultivated (15 irrigated). The assessment in 1815 amounted to Rs. 316; in 1820, to Rs. 603; in 1843, to Rs. 854, and the current assessment is Rs. 1,474, which falls on the total assessable area at Re. 0-7-8 per acre and on the cultivation at Re. 0-13-4 per acre. Two hundred and fourteen *bísís* are excluded from the revenue-paying area as *gúnth* and waste. The population at the time of settlement numbered 3,688 souls, of whom 2,058 were males. Sixteen villages were received from Lakhanpur and twenty from Rangor at the recent settlement. The patwári usually resides at Naini: there are schools at Phaltiya and Jageswar.

Dasoli Malli, a patti of parganah Dasoli in British Garhwál, is bounded on the north, by Painkhanda Talla and Talla Dasoli; no

the south, by the Nandákini river ; on the west, by Talla Dasoli ; and on the east, by Nandák. The principal villages to the west are Jákhini, Khunána, Chamtoli, and Nágbagar in the Nandákini valley connected by a cross path with the Baijnáth and Nandprayág road near Kándai in the Talli patti. The copper mines at Bonga, Pitkúnda, Bagota-Hína, Charbang, Danyála, Ghutgár, Suári, and Saulabagar in parganah Dasoli are now waste. At the current settlement, in 1864, the two Dasoli pattis and Band comprised 102 estates containing 142 villages with a total assessable area of 4,918 acres, of which 3,364 were cultivated. The land revenue amounted to Rs. 3,313, of which Rs. 2,155 were alienated in *sadábart* and the remainder in *gúnth* and *muáfi*. The mill-tax yielded Rs. 229 and the land revenue fell at Re. 0-10-9 on the total assessable area and at Re. 0-15-9 on the cultivation. The population returns in 1841 gave 3,261 souls (1,385 females) ; in 1853, 7,106 (3,573 females); in 1858, 7,063 (3,467 females); in 1872, 12,523 (6,221 females) and in 1881, 10,043 (5,028 females). The patwári of Nandák, resident at Pharkhet, collects the land revenue of Dasoli Malli.

Dasoli Talli, a patti of parganah Dasoli in British Garhwál, is bounded on the north and west by the Alaknanda river ; on the east by Dasoli Malli ; and on the south by Nandák and the Pindar river. The Birah-ganga, running west, joins the Alaknanda on the left bank near Birahi in this patti, in latitude 30°-22′ and longitude 79°-45′ ; and further south, the Nandákini flowing in the same direction joins it at Nandprayág, in latitude 30°-19′-45″ and longitude 79°-21′-55″. The connecting ridges and spurs of the Kotidánda (10,071 feet), Kotadánda, (8,323), Deangan (10,444), and Airadhár (10,354) peaks form the water-parting between the two rivers. To the north of the Birah-ganga, the Kakrondhar peak attains a height of 5,682 feet ; and further east is the Dhangmalkund peak, 8,120 feet. With such lofty mountains, cultivation is mostly confined to the river valleys. The road from Karnprayág through Nandprayág to Badrináth passes in a north-easterly direction along the left bank of the Alaknanda, while the road from Baijnáth and Almora in Kumaon passes down the Nandákini river to Nandprayág. The patwári of this patti, resident at Nandprayág, collects the revenue of Band also, which in 1864 aggregated from all

sources for both pattis Rs. 2,628, of which Rs. 1,062 were from *gúnth* and revenue-free lands and the remainder *sadábart*.

Dehra, a municipality and chief town of the Dehra Dún district, is situate in north latitude 30°-19′ and east longitude 78°-5′, at an elevation of 2,300 feet above the level of the sea. The office of the Great Trigonometrical Survey is 2,323 feet. Dehra lies on the road connecting Mussooree with the plains, and is distant 42 miles from Saháranpur, the same from Rúrki, 14 miles from Mussooree and 7 miles from Rájpur. The road to Sahárapur is by the Mohand pass, raised, bridged, and metalled throughout. A good second-class road, raised and bridged and for a short distance metalled, connects with the Jumna on the west; and a third class road proceeds through the eastern Dún to Hardwár on the east. In 1827, Dehra contained 518 houses and a population of 2,126 souls. In 1881, the population numbered 20,683 souls (8,442 females), of whom 15,063 (6,006 females) were Hindús, 4,881 (1,949 females) were Musalmáns, and 739 (487 females) were Christians. The number of inhabited houses was 3,959. The occupations of the people are those of an ordinary Indian town, and may be shown (for those followed by more than forty persons) thus:—Brokers, 46; carpenters, 148; gardeners, 167; cooks, 172; cloth-sellers, 78; butchers, 66; beggars, 157; water-carriers, 118; labourers, 174; shop-keepers, 232; pensioners, 74; druggists 42; peons, 123; watchmen, 63; sweepers, 274; tailors, 265; milkmen, 43; washermen, 149; palanquin-bearers, 47; grooms, 256; masons, 164; goldsmiths, 70; cultivators, 365; potters, 75; greengrocers, 99; cartmen, 192; grass-cutters, 250; wood-cutters, 143; blacksmiths, 49; day labourers, 738; office clerks, 103; and servants, 117. The native town[1] lies to the east and west of the principal road from Mohand to Rájpur, and is surrounded by hamlets practically forming a portion of the town of Dehra, but of which some are, and some are not, included within municipal limits. Such are Dharmpur, Chukwála and Háthi-barkhála; near the Hardwár, Jumna, and Rájpur roads respectively, and which are not within municipal limits, and Dilarám-kí-bázár, Karnpur, and Dálanwála, included within municipal limits. The central portion of the town is built on the crest of a low ridge, which

[1] I am indebted to Mr. Fisher, B.C.S., for this notice.

extends from the Mohand pass to Rájpur, and forms the water-parting between the Ganges and the Jumna. In the early accounts, Dehra is described as situate amid dense groves of mango-trees, surrounded by verdure-clad fields, the vicinity being watered by a torrent descending from the mountain. Seen from Mussooree, the country around Dehra appears to be well-wooded, especially at the southern extremity of the town, where the grove, called Lakhibágh, affords a good encamping-ground. From an early time, the drinking-water of Dehra has been supplied by an aqueduct drawn from the head of the Rispana torrent near Rájpur. In 1841-44, this was repaired and restored, and designated the Rájpur canal. Divided into two, it intersects the civil station and Dehra, and forms one of the most characteristic features of the place. Although it may be charged with being the cause of malaria in some cases, there is no doubt of its being the cause of the verdure which makes Dehra at all times one of the prettiest stations in India.

Bambus.

The canal, too, has helped to rear the magnificent bambus which, in fine clumps of several yards in circuit, are still to be seen along the road. These perished to a great extent in 1881, after flowering. Mr. Duthie records this phenomenon, and writes :—

"Among the remedies which have been suggested for keeping them alive under these circumstances is one known very well to natives and said to have been successful. As soon as the flowers begin to appear, all the stems are cut down close to the ground, after which the roots are covered over with manure and litter and set fire to. When the rainy season comes on, it is said that an abundant crop of young shoots will break out from the old roots. It is not difficult to understand the cause of death under ordinary circumstances when we consider how the plants must be weakened by the sudden production of such an enormous mass of flowers; and at the same time, being almost devoid of leaves, the plants are thereby deprived of the means of obtaining their proper nourishment by the action of the roots. The effect of fire being applied may possibly be to seal up the points from which the remaining strength or sap of the plant was issuing, and to cause it to be stored up just as nature does in the case of bulbs, tubers, and other fleshy underground organs, and which under suitable conditions are capable of perpetuating the plant."

Civil station.

The civil station extends along the Rájpur road, from the northern extremity of the native town to the Body-guard lines which are about midway between Dehra and Rájpur. There are a few other houses near the

race-course and towards cantonments. The fine open space between the latter and the civil station was the old parade-ground used by the troops stationed at Dehra, until the lines were removed to the higher ground across the Bindhál stream. The race-course belongs to the municipality, and is one of the finest in India, and makes the Dehra week in October rank amongst the most successful meets. The site of the new cantonments, occupied by the 2nd Gurkhas or Sirmor Battalion, is regarded as the healthiest part of Dehra, and lies about two miles from the town on the right of the Jumna road. A new road branches off from the Rájpur road near the Dilárám-kí-bázár to cantonments, called the Háthibarkhála[1] road, which shortens the distance to Rájpur. The comparative elevation of the lines gives a drier site, and there is nothing to obstruct the air from the hills in the way of forest, so that the climate of cantonments is perceptibly better than that of Dehra civil station, with its luxuriant vegetation and damp soil. The irrigation cut from the western canal passes through cantonments, and, although unfit for drinking purposes, is used for irrigation. A fine rifle-range has been made near the quarter-guard, and, to the right, the lines with a bazaar and hospital at no great distance. The private houses are mostly owned by the officers of the regiment quartered here. The suburbs of both cantonments and the civil station contain numerous tea-gardens.

Cantonments.

The Viceroy's body-guard has its head-quarters at Dehra, the lines being situate about half-way between Dehra and Rájpur. The Viceroy's stables, with accommodation for some fifty horses, are situate near the race-course. The body-guard arrives at Dehra at the end of March and leaves for Calcutta at the end of October. The Sirmor battalion, now known as the 2nd Gurkhas, was formed, in 1815, from the disbanded Nepálese troops, and was first stationed at Náhan, the chief town of Sirmor. It was directed to join the force assembled at Sítapur in Oudh and destined to invade Nepál, but had only reached Murádabad when the order was countermanded, and

Troops.

[1] The name Háthibarkhála has its origin in a tradition to the effect that there was here a great *bar* tree (*Ficus indica*), which had an opening between its trunks through which an elephant tried to pass, and in doing so rent the tree as under, whence the name of the village, *khála* being 'a pass' in Hindi.

it returned to Dehra, which had been selected as its future cantonment.[1] It was again on service at Sítapur and in October, 1817, served under Sir David Ochterlony in the Mahrátha campaign. In 1824, it assisted in clearing the Siwáliks of the Gújar banditti,[2] and in 1825-26 two companies served at the siege and capture of Bhartpur. In 1846, the regiment reached Ludhiána in time to save it from plunder by the Sikhs, and was present at Aliwal and Sobraon. In 1848, it was again on service at Ludhiána, and remained there until the end of the second Sikh war. In 1850, it became a general service corps, and, in 1857, was the first in the field against the rebels, where its services at Badli-ke-sarái and as the main picquet at Hindu Rao's house cannot easily be forgotten, losing as it did 327 killed and wounded out of 490 of all grades. The regiment[3] became known as the Sirmor rifle regiment for this service. In 1864, it served in the Momand war; in 1868, in the Hazára expedition; in 1870, in the Lushái expedition; and, in 1876, was honored in having His Royal Highness Field Marshal, the Prince of Wales, as its honorary colonel, and the name was changed to "the Prince of Wales' Own." In 1878, the regiment formed a portion of the Malta and Cyprus expedition, and proceeded thence to Afghánistán, joining in the march from Kábul to Kandahár, and being present at the battle of Kandahár in September, 1880. This record of services is surpassed by no other regiment, and Dehra does well to be proud of its popular local regiment.

Muhallas.

Turning to Dehra itself, the municipality divides it into 27 muhallas or wards, *viz.*, Akhára; Paltanbázár; Mannuganj; Parsauliwála; Talla muhalla; Bázár Jawáhir mistri; Játiya, near Kharbara; Játiya, near Aragarh; Chukwála; Darshani-darwáza; Bázár Dilárám; Bázár Dhámuwála; Dhámuwála; Dálanwála; Sálawála; Pháltu-line; Karanpur; Kua-muhalla; Kumhárwála; Korsi-muhalla; Kharbara; Ghosi-muhalla; Lakhi-bágh; Luniya-muhalla; Mánsinghwála; Náyanagar police lines and Náyanagar. Most of these names explain their origin from some person or place connected

[1] When formed there were 10 companies of one subahdár, four jamadárs, eight havildárs, two buglers, and 120 sepoys each. This was reduced in 1818 to eight companies of 80 men each. [2] See Williams' Memoir, p. 145. [3] It also received an extra color bearing the word "Dehli" in English, Urdu, and Hindi, similar to those of British line regiments.

with them. The Darshani-darwáza is one of the gates of the Sikh temple from which a view of the tomb of the "*guru*" is obtained. Kharbara is said to mark the place where, in a fight between the Pándavas and Kauravás, a cow was accidentally wounded in the hoof (*khar*) by an arrow; or, according to others, where the cow Kámadhenu planted her hoof, and three springs broke out, which now fill the tank excavated by Panjáb Kuar. The chief public offices are the session court-house; the offices of the Great Trigonometrical Survey; the tahsíli; post-office; telegraph-office; police-station; dispensary; sarái, and leper asylum. The club, the American Mission schools, Convent school, and three Government schools end the list. The club was started in 1878, and now has a convenient house and some resident members. There are two hotels—Gee's hotel and the Victoria, which is badly situated. The American anglo-vernacular boys' school dates from 1854, when Mr. Colvin gave a portion of the tahsíli compound for the use of the mission, which was exchanged for a better site by Mr. Dunlop. In 1881, there were 137 pupils, of whom 110 were Hindus, 15 were Musalmáns, and 12 were Christians. In 1884 there were 162 boys on the rolls. A native Christian school for girls was opened in 1859 by the Reverend D. Herron and supplies a long-felt want. In 1881, there were 134 boarders and eight day-pupils, and in 1884, there were 140 on the rolls. A fine building has recently been erected to accommodate teachers and pupils. "Education in its highest form is aimed at, but the importance attached to the domestic arts gives it a more definite and practical aim." The teaching is intended to include the entrance university course. The pupils come from all parts of the North-Western Provinces and the Panjáb, and the moderate charge of six rupees per mensem for board and tuition place it within the means of all. Another Christian institution is the Ludhiána orphanage established there in 1836 and removed to Dehra in 1871. Mr. Wood's academy and the Convent schools come down to Dehra from Mussooree in the winter. The convent was established in 1845, and has 100 pupils and from eleven to fourteen religious ladies in residence. The winter head-quarters of the Great Trigonometrical Survey are here. Its records date from 1800, when it began in Madras, and its operations now include India and the neighbouring countries, A fghánistán and

Tibet.[1] The maps produced at Dehra are photozincographed in Calcutta, where the results obtained under the superintendence of Major Waterhouse are unsurpassed in any country for accuracy and finish. There is a church and Roman Catholic and Presbyterian chapels.

Climate.

"The climate of Dehra may be termed," writes Dr. McLaren, "a moist and temperate one. The average rainfall is 78 inches. The temperature in shade fluctuates from 37° in January to 98° in June and the daily range is not great, if we except the months of September and October, which form consequently the most unhealthy season of the year. The valley, on the whole, is peculiarly free from sudden extremes of heat and cold, especially from the blasts that scorch the country lying below its southern boundary, but owing to the cutting, clearing, and cultivating operations which have within the last few years been carried on, in the western portion of the Dún, hot winds now accompany the advent of the summer months. These are not scorching in their effects, but are annually becoming more marked and prolonged, and are doubtless owing to the rapid clearances of tree jungle which the landowners think fit to carry out. These warm breezes were unknown in Dehra before 1873. From its close proximity to the outer Himálayan range, Dehra is also generally cool: the cold weather commencing earlier and lasting longer than in the plains. There are no special prevailing winds: a mild breeze during the warmer months being, during the day, wafted from the south, which changes its direction from the north after sunset, thus rendering the climate at this sultry season tolerable and pleasant. The water-supply of the European portion of the station is obtained from a spring[2] at Nalapáni, which issues from a small hill situated about two miles to the north-east. The present supply of drinking water for the native population is obtained from an open canal which traverses by numerous channels the city, being liable, however, to contamination of all kinds during every

[1] Records, G. T. Survey, Vol. II., Dehra, 1870. [2] A scheme for bringing this water into the town in pipes has often been before the municipality. The cost of a cheap scheme by which the water could have been brought to a tank on the old parade-ground near the town is stated at Rs. 16,000, but the apathy of the people themselves, the paucity of wealthy men, and the poverty of the municipal funds have hitherto presented insuperable obstacles to progress in this direction.

season of the year. During the rainy season especially, its quality is so bad that it is totally unfit for use, in fact it is very injurious, as shown by the general prevalence at that season of bowel-complaints, which constitute the chief causes of the local diseases. Tanks have lately been constructed at various points throughout the city to allow of the subsidence of matters held in suspension; but so minutely divided are the suspended clay and sand, that nothing but boiling and filtering the water can render it fit for drinking purposes. In the station, there is only one well in use, and it is 226 feet deep. It is kept more especially for jail use, but the quality of its water, too, is so inferior and has been such a frequent source of bowel ailments amongst the prisoners and others, that boiling and filtering have to be resorted to before it, also, is fit to use.

"Dehra being built on the watershed of the Dún, and the subsoil being composed of loose gravel, the drainage of the station and its suburbs is most perfect. The death-rate for the municipality in 1880 was only 18·97 per thousand, and compared favourably with that of most others, the provincial average being 37·37. There is a second class sudder dispensary at Dehra, situated about the centre of the bázár to the right of the main road leading from Saháranpur to Rájpur. It was first opened in 1852, and is supported partly by Government and partly by private and municipal contributions. Till very lately, there were two branch dispensaries in connection with it—one at Rájpur and another at Kálsi, both now abolished. This dispensary has six wards affording accommodation to 20 males and 8 females, besides one which is kept exclusively for the better class of natives. The diseases ordinarily treated are malarial fevers, goitre, skin diseases and dysentery, respiratory affections, rheumatism, ophthalmia, diarrhœa, and diseases of the generative organs. The average daily attendance is in-patients 28, out-patients 87, and the number of inmates, including the hospital assistant and servants, 35: total number of out-patients in the year (1881) 15,738, in-patients 668. The average annual income, including Government grant, is Rs. 2,400, and the expenditure Rs. 2,300. Vaccination is carried on, throughout the district, by a special officer of that department.

A vaccinator is paid partially from municipal funds, and is placed under the orders and directions of the Civil Surgeon, to whom reports of his work are made weekly. The leper asylum was opened in 1879, and is supported solely by private and municipal contributions. The building is situated outside the city, about a mile south of the Dehra cemetery, and is divided into two symmetrical parts giving separate accommodation to the males and the females. The present number of inmates, including servants, is 91. The income scarcely covers the expenditure."

Municipality.

In 1881-82 the income of the Dehra mnnicipality amounted to Rs. 11,351 and in 1882-83 to Rs. 9,528. In the latter year the house-tax yielded Rs. 6,002, from a cess on houses, buildings, and lands in the station and the city; the *nazúl* lands and houses vested in the municipality yielded Rs. 836 and the *saráí* let for Rs. 530: gardens brought in Rs. 51; fines and pounds Rs. 940, and miscellaneous items, including the slaughterhouse, Rs. 1,108. The expenditure during 1881-82 amounted to Rs. 11,227, and during 1882-83 to Rs. 9,525. In the latter year the cost of collection was Rs. 475, or nearly five per cent on the income: head-office establishment cost Rs. 279; whilst Rs. 4,264 were spent on public works; Rs. 1,537 on police; Rs. 200 on education; Rs. 350 on charitable grants (vaccination and dispensary); Rs. 1,706 on conservancy; Rs. 458 on watering; Rs. 458 on lighting and Rs. 255 on miscellaneous objects. These figures giving the details for one year sufficiently show the character of the receipts and charges on account of the municipality. The cantonment funds which are devoted to similar purposes showed an income of Rs. 1,227 from the sale of grass and wood, rents of lands under cultivation, pounds, and other minor sources; whilst Rs. 532 were expended on conservancy, repairs, and establishment. The affairs of the municipality are managed by a committee, the majority of whom are elected by the tax-payers. The number of houses assessed to the tax was 3,740 (118 in the civil station and 3,622 in the town), and the incidence of taxation is only about five annas per head per annum. The area of Dehra municipality is 2,315 acres, or 3·62 square miles; and of the cantonments is 566 acres.

Sikh temple.

The temple[1] or Gurudwára of the Udásis, the sect of religious ascetics founded by Rám Rái, their Guru, was built in 1699 A. D. and is the only object of historical interest. The central block, in which the Guru's bed is preserved, is a handsome structure, designed in the style of the Emperor Jahángír's tomb: at the corners, it has smaller monuments in memory of the Guru's four wives. The model adopted has naturally given a Muhammadan appearance to the whole, very curious in a place of worship built by Udásis, who suffered so much at their hands: brick, plastered over and pointed in imitation of mosaic, forms the material of the building. Three reservoirs, the largest of them being 230 feet long by 184 feet wide, are attached to the temple: two receiving supplies of water from the Rájpur canal and the third from rainwater only; its use, for boiling pulses, rendering it necessary to limit the supply to this source, as canal water is too hard for the purpose. The revenues of the temple include the income derived from seven villages in British territory and six in Tihri, for which no rent or revenue is paid to the State. The revenue thus derived has risen enormously since Mr. Shore estimated it (in 1827, at Rs. 1635; Rs. 1,600 from the former and Rs. 35 from the latter) owing to the immense rise in the value of land, so that, by common repute, the chief priest or Mahant, who has the absolute disposal of the revenues of the endowment, is the richest man in the Dún. His election from among the disciples (*chelas*) of the last deceased Mahant was formerly guided by the Sikh chiefs of the Panjáb, a *nazarána* of Rs. 500 being presented to the British Government at the installation, with the complimentary gift in return of a pair of shawls. The distinctive head-dress of the sect worn by the high priest and his disciples is a cap of red cloth, shaped like a sugar-loaf, worked over with coloured thread and adorned with a black silk fringe round the rim. The acknowledgment of Guru Rám Rái's saintship is not confined to the Udásis, but most Hindu sects furnish devotees, especially in the Dehra Dún, where his influence was most felt. Perhaps, however, the most enthusiastic of his worshippers will be found now, as heretofore, among the Cis-Satlaj Sikhs. Owing to the doubt cast upon his legitimacy and the divergence

[1] See Gaz. XI. 840.

of his peaceful doctrines from the stern tenets of Srí Guru Gobind Sinh, the Akháli Sikhs have uniformly refused him recognition, but notwithstanding this, it is on record that Ranjít Singh, when apprehensive of impending death in the spring of 1826, sent an offering of Rs. 500 to this temple.

The time fixed for the annual ceremonies of the saint is that of the Hindu festival known as the Holi, usually falling in April. A fair (*mela*) lasting 10 days, and called *Sangat*, commences on the 1st of Chait, and, on the sixth, the ceremony of hoisting a new flag, upon a monster flagstaff standing between the temple and the large tank, takes place. Hundreds of pilgrims, to each of whom a day's food is given by the Mahant, aid in this duty ; but the total number attending the fair varies from 3,000 to 10,000, the larger figure being reached only when the Hardwár fair, whither the pilgrims flock immediately after, is very largely attended at the *Kumbh* and *Adh-kumbh*. The authentic history of Dehra may be said to date from the close of the seventeenth century (1756S., 1699 A.D.), when Rám Rái retired to the Dún, after his failure to obtain the recognition of his claims to succeed his father as Guru, and founded a sect of dissenters. He, at first, resided at Kándli on the western side of the Tons river, but ultimately removed to Kharbara (now included in the modern town of Dehra) and built the temple named after him at the neighbouring village of Dhámuwála, unless, as is sometimes alleged, it was constructed by his widow, Panjáb Kuar. His presence soon attracted numerous devotees and a flourishing town, called Gurudwára or Dehra, grew up around his dwelling[1]. Coming with letters of recommendation from Aurangzeb to Fateh Sáh of Garhwál, the Guru was welcomed, and his temple endowed with the three villages of Kharbara, Rájpur, and Chama-Surí, to which four others—Dhámuwála, Miyánwála, Panditwari, and Dhartawála—were added by his successor. Captain Raper visited Dehra, in 1808, and found it an "extensive village." It had been a populous town a few years before, its decadence resulting from the constant succession of invasions by the Sikhs and Gujars. The rule of the Gorkhális, commencing in 1803, closed in 1814, and

History.

[1] Locally the name is derived from the resting-place of the body (*deh*) of Guru Rám Ráe.

the formal annexation of Dehra Dún to the district of Saháranpur in 1815 was followed by the introduction of the usual revenue and police sub-divisions and an establishment for the latter (police) on an extremely modest scale, but it was not till February, 1823, that any real administration commenced. The Honorable Mr. Shore then assumed charge under the designation of Joint-Magistrate, and, during his residence at Dehra (till 1828), the town along with the rest of the district gained greatly from his reforming hand. Mr. Shore's zeal communicated itself to the people, whom he induced to repair the roads, and he himself advanced the funds (which were hardly ever repaid) required to build the Dehra jail, and to establish shops on the road, frequented by travellers to Mussooree and Landour, places which were then beginning to be visited by Europeans from the plains.

Amongst the local projects for the improvement of the valley is a railway to connect it with the plains. The cost of a metre-gauge line about 75 miles long from Deoband or Nágal on the Sindh, Panjáb and Delhi Railway *viâ* Rúrki and Hardwár to Dehra and thence to Rájpur at the foot of the mountain, has been estimated at Rs. 35,00,000. The sources of revenue relied on are (1) the traffic of Rúrki ; (2) the Hardwár pilgrim traffic ; (3) the traffic of the Ganges canal, and (4) the general traffic of the Dún and the hill sanitaria. The average of five estimates gave this expected revenue as Rs. 6,30,334. The scheme was submitted to the Local Government, but the concessions asked for were not granted. Meanwhile a concession has been granted by the Secretary of State for India to the Oudh and Rohilkhand Railway for the extension of their line to Saháranpur, with probably a branch to Hardwár, which has thus deprived the promoters of the Dehra Dún Railway of the main item—the pilgrim traffic—in their scheme.

Dehra Dún, district of (see the end of this volume).

Deoprayág, or Deva Prayága, a town in patti Bangarh, of native Garhwál, at the confluence of the Alakṇanda and Bhágirathi. The former flows from the east and the latter from the north, and, at the vertex of the right-angle formed by their junction, the town is situate. The contrast formed by the two streams is very remarkable ; the Bhágirathi runs down a steep declivity with a rapid

course, roaring and foaming over large stones and fragments placed in its bed, while the placid Alaknanda, flowing with a smooth and unruffled surface and of three times the volume, gently winds round the point. The banks of both rivers are composed of hard black rock; but while those of the Alaknanda are almost perpendicular to the height of 80 or 100 feet, those of the Bhágirathi are shelving and expanded. The Alaknanda, the deeper and more considerable river, is, at the season of low water, 142 feet in breadth, and in the rainy season rises 46 or 47 feet. The Bhágirathi is, at the season of low water, 112 feet in breadth, and rises 40 feet in the rainy season. Each river is crossed by a *jhúla* or rope bridge; the united stream having a breadth of 80 yards receives, below the confluence, the name of the Ganges. The village is built on a small flat, below a perpendicular cliff, at an elevation of 100 feet above the water, on the scarp of a mountain rising behind to the height of about 800 feet. A huge flight of steps, cut in the rock, by which even cattle can travel gives access to the town from the water's edge.

The houses are arranged so as to form two rows of unequal length, joined at a right-angle, the longer row facing the Bhágirathi, the other, the Alaknanda. They are generally two stories high, built of large stones, cemented with lime mortar, and having sloping roofs covered with shingles. In the upper part of the town, stands a temple sacred to Rámachandra. It is situate on a terrace from twenty to thirty yards square and six feet high, and is built of large blocks of cut stone piled on each other, without cement, so as to form a pyramid, bulging in the middle and decreasing rapidly towards the summit, which is surmounted by a white cupola; and over all, is a square sloping roof, composed of plates of copper, crowned above with a golden ball and spire. The entrance is on the western side, in a portico, from the roof of which are hung bells of various sizes. Under the shelter thus provided the worshippers perform their devotions. The image of Rámachandra, about six feet high, carved in black stone, but painted red, except the face, is seated opposite the door, and under the eastern part of the cupola. Before the idol, and opposite the portico, is the brazen image of a Garuda; one knee is bent on the ground, and his hands are joined in the attitude of prayer. The whole height of the building

is between 70 and 80 feet. Under the terrace is a temple sacred to Adi-Bishveswar. Deoprayág is a peculiarly sacred place of pilgrimage for Hindús, being one of the five principal '*prayágas*' or confluences. The grand rite is ablution, which takes place, at the confluence of the rivers, in two *kundas* or basins, excavated in the rock, at a level a little lower than the surface of the current, which here is so rapid and violent as to sweep away any attempting to bathe in it. The names of the pilgrims are registered, on their paying to the officiating Brahmans the usual dues. These Brahmans also enjoy the revenue derived from 25 villages granted by the Rája of Garhwál; and, notwithstanding the celebrity of the place, are compelled to eke out a subsistence by the practice of trade. The temple, as well as the rest of the town, was much shattered by an earthquake in 1803, but was subsequently repaired by Daulat Ráo Sindia. The town contains between 200 and 250 houses, inhabited principally by Brahmans from the Dakhin. The heat is sometimes very great, exceeding 100° at noon in the shade. Elevation above the sea, of the town, 2,266 feet; of the stream, 1,953. Latitude 30°-8′, longitude 78°-39′. The village of Báhs in British Garhwál, to which is attached a small bazar, is nearly opposite to Deoprayág. They are connected by a rope bridge (*jhula*) of about 120 feet span.

Devi Dhúra or Deh, a station on the road from Almora to Lohúghát, 13 miles from Pharka, 17 miles from Dol, and 32 miles from Almora, 6,633 feet above the sea, is situate in north latitude 29°-24′-56″ and east longitude 79°-54′-30″. There is a bungalow and a grain-shop here where common supplies may be obtained. On the north-west face of the mountain, a few feet below its crest, there are two groups of colossal blocks of grey granite piled on each other, consecrated to Mahádeva, Varáhi Devi and Bhím Sen, and softened by a few picturesque oaks, *deodárs*, walnuts and a large *silang* (*Olea fragrans*) tree. Similar boulders are strewed over the surface of the surrounding mountains, especially on the upper part of the deep depression in the range immediately north. Between two of the main boulders, in a recess crowned with a grove of *deodárs*, is a celebrated temple at which a fair is held in June-July, when many goats and buffaloes are offered at the shrine. There were two noteworthy customs at this fair: one was when they dragged the idol to the top of the plateau a few hundred yards off

where the cairn of the Great Trigonometrical Survey stands, the draggers being men all naked ; another was the custom of forming two parties, who attacked each other with sticks and stones (known as *bagwáli*), a practice not uncommon throughout Kumaun and Nepál. To the west of the temple are two boulders ; the uppermost of which, called Ransila, about one hundred feet in length, is cleft through the centre by a deep fissure, at right angles to which there is a similar rift in the lower rock. On Ransila rests a smaller boulder, said to be the same that was employed by Bhím Sen to produce these fissures, in proof of which, the print of his five fingers is still pointed out. The surface of Ransila also presents certain other marks and figures on which the Pándu brothers amused themselves at *pachísi*, an indigenous kind of chess. Both boulders and fissures are indeed sufficiently extraordinary to warrant some superstitious legends among an ignorant population. Some writers hold that these wildernesses of granitic boulders, as well as the fissures, originated in "a contraction of the distended surface of the granitic mass when first upheaved." Others appear more inclined to attribute the boulders to the existence of hard and highly crystallised nuclei, which have resisted the decomposition going on all around, caused probably by the action of water on the superabundant felspar. Many of the boulders are also perishing, but somewhat differently ; large and thick concentric coats scale away, and crumble, by the process of desquamation, which is equally remarkable in the trap rocks. The fissures appear to be too fresh and sharp to allow of the supposition that they are coëval with the elevation of the rock : they are probably due to the unequal cooling of the mass when a frosty night has succeeded a very hot day.

Devi Dhúra occupies the north-east and highest angle of a great granitic plateau, steep on the east and north, but sloping gently to the west and south : it is covered with wood and furrowed by deep ravines. One of these commences at the shrine, and soon collects a pretty stream deeply shaded by horse-chestnut and other trees : at its head is a *naula* or covered well. This granitic ridge extends continuously from Dernáth near Fort Hastings to Saur-Phatak within three miles of Dol. At Saur-Phatka the road leaves it, but the formation is probably continued to Siyáhi Devi, as the granite re-appears on the west and south faces of the Bandani and

Mukteswar mountains; in the bed of the small stream which joins the Kûmniya below Piúra, and on both sides of the Kúmniya up to Kapleswar—(*Madden*).

From Pharka.

From Pharka, the road is good but tortuous, following the tabular and rounded summit of the granitic range well wooded with rhododendron, pine, pear, *káiphal* and *bánj* (oak). The road descends at once from the bungalow for a mile and a half, and ascends as much to the Airi peak (over 5,000 feet). At the sixth mile, is a *deodár* grove and temple called Pátí, around which are the sources of the Ratiya, an affluent of the Ladhiya. At four miles from Devi Dhúra, the road descends to a *col* called Garsári-lekh, with the village of Gûm below on the left. Hence there is a considerable ascent to the bungalow at De. The view from the bungalow is one of the finest in Kumaon: it includes Thákil and Thûm on the east, Binsar on the west, the Gágar range to the south-east, and the peaks of Gangoli to the north. Hence to the new bungalow at Mornauli on the road to Dol, there is, first, a steep descent to a *col*, on the southern side of which rises a feeder of the Ladhiya and on the northern a feeder of the Panár, an affluent of the Sarju. Hence the route ascends gradually and proceeds along the ridge to the new bungalow at Puyapáni (cherry-tree water). The scenery here is beautiful and the mountains are well wooded with oaks, rhododendrons, *ayár*, *káiphal*, *kharas*, *chamkharak*, *utis*, *kúnku* and *báunra*, and the level is high enough for *Primula denticulata* and an occasional yew. Three miles short of Dol (17 miles from De), the road descends to a second *col* called Saur-Phatka, where there are pools of water and a few carved stones. Here the granite ceases, and is replaced by stratified rocks, quartzose, micaceous and slaty, dipping north. A mile beyond Saur-Phatka, the road passes an extensive wilderness of vast angular gneiss fragments; perched on the top of a group of these is a rudely conical mass of the same material, twenty to thirty feet wide at the base and fully fifty feet high. It is called Nágdeo and is worshipped as a phallus: the foundations of old buildings are visible around. A rivulet, one of the heads of the Panár, rises between these boulders and the high road, and following it for a mile, the traveller comes on a very pretty, small, secluded dell shaded by *deodárs*, chestnuts and *tilonj* oaks, with a temple to Vishnu: a path leads hence direct to Dol (*q. v.*), where the bungalow now belongs to a planter, the new one being situate three or four miles further on.

Dewalgarh, a parganah of the Garhwál district contains seven pattis or sub-divisions, each of which is separately noticed—*viz.*, Bidolsyún, Bachhansyún, Chalansyún, Dhanpur, Ghurdorsyún, Kandársyún and Kathulsyún. Dewalgarh is bounded on the north by Nágpur, on the east by Chandpur, on the south by Bárahsyún and on the west by Tihri. The assessment of the land-revenue has been as follows:—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs
1,696	2,243	2,869	3,445	4,206	4,367	4,442	4,530	8,558

The records of the current settlement show that there are 269 estates comprising 392 villages, and containing a total assessable area of 10,335 acres, of which 9,464 are cultivated. The mill-rent amounted to Rs. 237 and the land-tax to Rs. 8,558, of which Rs. 189 were alienated in *sadábart* and Rs. 364 in *gúnth* and *muáfi*. The land-revenue fell at Rs. 0-13-3 per acre on the total assessable area, and at Rs. 0-14-5 on the cultivation. The population in 1841 numbered 9,474 souls, of whom 5,373 were females: in 1853, 20,408 (10,213 female); in 1858, 17,645 (8,543 females); in 1872, 25,036 (12,657 females), and in 1881, 29,288 (15,054 females). Dewalgarh is named after the old temple of the Rajas of Garhwál which still exists and possesses considerable endowments in British Garhwál and Tihri. Srínagar the capital is situate in the parganah and also the Dhanpur copper mines. Srínagar still carries on some trade with Najíbabad and the formation of the pilgrim road to Hardwár has made it the resort of numerous pilgrims during the season. The civil station and residence of the Senior Assistant Commissioner is at Páori, where there are also civil courts, and near it is the American Episcopal Methodist Mission and a tea-plantation. The Dhanpur copper mines are the best in the province and have been already noticed. Writing in 1840, Mr. Batten states that "twenty-one villages, large and small, have always been attached to the mines, and it has been found impracticable to separate the leases of the villages from that of the mines, old custom having made the labour and supplies derived from the villages essential to the mining lessee. Out of a total of Rs. 1,901 paid by the farmer of the mines it was found that he collected only Rs. 266 from the villages. The assessment on the Dhanpur mines in 1864 amounted to Rs. 555, including Debri and Morgadh. The Panai and Srinagar valleys are eminently rich and beautiful and the scenery of the Dhanpur range is particularly striking and picturesque. Greywacke, quartz rock, trap, clay slate, talcose slate and limestone, alpine and dolomitic (the latter containing the copper ores) are the prevailing formations.

Dháijyúlí, a patti of parganah Chandpur in British Garhwál, is bounded on the north, by patti Kandársyún; on the west, by the same patti and patti Choprakot; on the south, by the latter patti, and on the east, by Taili-Chandpur. The census of 1881 shows

population of 2,396 souls. The land-revenue in 1884 amounted to Rs. 521 and is collected by the patwárí of Choprakot, residing at Kanyúr. Dháijyúli occupies the upper valley of the southern branch of the western Nyár and is chiefly filled by the peaks of Náori (8,052 feet), Tárakakand (9,000) and Sont-khál (9,294).

Dhangu Malla, a patti of parganah Ganga Salán of British Garhwál, is bounded on all sides by other pattis of the same parganah, and on the west is separated from the Udepur patti by the Hinwal river, which rises in Karondu Walla and flows along the southern and western boundary of this patti. There are schools at Dihkhet and Thantoli. The population in 1881 numbered 5,953 souls, of whom 3,049 were females. The land-revenue in 1884 amounted to Rs. 1,916. The patwári of this patti resides in Dihkhet and collects the land-revenue of Karondu Palla also, both of which in 1864 gave Rs. 2,491 from all sources. Garhkot lies in latitude 29°-57′-30″ and longitude 78°-35′-0″.

Dhangu Talla, a patti of parganah Ganga Salán in British Garhwál, is bounded on the north and north-west, by the Ganges; on the south, by the Udepur pattis, and on the east, by the Nyár river, separating it from parganah Bárahsyún. The census statistics for 1881 show 2,377 males and 2,429 females. In 1884, the land-revenue amounted to Rs. 1,267, which is collected by the patwári who resides in Chandpur, and collects the land-revenue of Udepur Malla also; both in 1864 aggregated Rs. 2,380 for land-revenue and *sadábart* paid by a population of 5,675 souls. The patti is traversed by the Hardwár and Srínagar road, besides village tracks. Dhángu Talla lies between the Hinwal and the Ganges and is highly cultivated throughout.

Dhaniyakot, a parganah of Kumaon, comprises four pattis, each of which is separately noticed—*viz.*, Chauthán, Dhaniyakot, Uchákot and Simalkha. The assessment at various periods since the conquest was as follows:—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,153	4,139	4,699	5,091	5,412	5,413	5,494	5,507	7,164

The present land-tax falls at Rs. 1-4-1 per acre on the whole assessable area, and at Rs. 1-9-7 per acre on the cultivation. The area assessed to revenue amounts to 5,702 *bísis*, of which 1,229 are

culturable and 4,473 are cultivated (980 irrigated). The population at settlement numbered 11,767 souls, of whom 6,008 were males: in 1872, 8,636 males and 6,113 females: and in 1881, only 1,257 males and 1,186 females are recorded: the census returns referring only to the portion of the parganah in the Bhábar tahsíl. Thirty-two *bísís* are held as temple endowments and 965 free of revenue. The patti lies along the northern slopes of the western Gágar range and was once a very retired portion of the district, but now, owing to its proximity to the sanitaria of Naini Tál and Ránikhet, it is well known. In Tallakot, one of the most flourishing estates, the revenue was raised in 1843, and has been again increased and some of its hamlets have been made separate estates. Simalkha suffered from the floods in 1840, but has since in a great measure recovered. In Chauthán the villages are large and flourishing, though few in number. The people, in addition to their general pursuits in the Bhábar, convey their produce to the bazárs of Naini Tál, Ránikhet and Almora, and benefit by the pilgrim route to Badrináth which passes through the parganah. The whole tract is rich in an agricultural point of view, and its orchards of mangoes, plantains, oranges, &c., show the general mild temperature prevailing. But the frosts in winter are extremely severe, and people are glad, both for the sake of pasturage and climate, to repair to the Kota Bhábar. The bháyachára tenure prevails, but two zamíndáris also occur. The iron ores of Dhaniyakot (chiefly red hæmatite) are found in Khairna and Tutail, but are little worked.

Dhaniyakot, a patti in the parganah of the same name in Kumaon, is bounded on the north, by the Kosi river, which separates it from Chaugaon; on the east, by Kotauli Talli, Rámgar Talla and Malla; on the west, by Simalkha and on the south, by Kota Malla and the Chhakháta parganah. The assessable area comprises 1,896 *bísís*, of which 543 are culturable and 1,353 are cultivated (275 irrigated). The land-tax in 1815 was Rs. 1,448, rising to Rs. 1,933 in 1820 and Rs. 2,030 in 1843. The present assessment is Rs. 2,265, which falls at Rs. 1-3-1 per acre on the total assessable area and Rs. 1-10-9 per acre on the cultivation: 858 *bísís* are held free of revenue, comprising some very fair land. The population at the time of settlement numbered 5,079 souls, of whom 2,592 were females. Two villages were received from Simalkha and

four from Chhakhâta at the recent settlement. The patwâri usually resides at Majhera; there is a school at Mallakot.

Dhákuri, or Dhákuri-Bináyak, a halting-place with a bungalow (without attendants) on the route to the Pindari glacier, six miles from Lwárkhet, 57 miles from Almora and 7 miles from Kháti.

From Lwárkhet or Lohárkhet to Kháti a march of about four hours leads to Tanti about 200 feet below the pass over the Dhákuri-Bináyak ridge, of which the peak rises on the left to a height of 10,541 feet. The path commences to rise at once on leaving Lwárkhet and is in parts very steep and rocky, interspersed with occasional undulating meadows. One large stream is passed which, rising between the pass and the Chaur-ke-dánda, flows down the spacious wooded glen towards the Sarju and in one spot forms a fine water-fall. The limestone rock ceases at Surhing, and is replaced by quartzose rocks, and finally by gneiss. The views across the Sarju are very grand, and from the pass a new and magnificent, though contracted, prospect of the snowy range extending from the Nanda-kot peak on the east to Mántoli-ka-dhúra (Trisúl) on the west is seen. The eastern peak of the Trisúl faces the west in a great bluff, from which a long easy ridge, presenting an unbroken sheet of snow, slopes down to the east, connecting the Trisúl with the Nanda Devi cluster. Strange to say that here, within 20 miles of the two great rocky peaks of this cluster, and elevated 10,500 feet, they are invisible, being concealed by the two beautiful pinnacles of pure snow, which from Almora are seen to be merely the abrupt terminations of two immense spurs, the easternmost of which is there known as Nandakot, "Devi's bed." From this point of view it rises into a fine and lofty spire. In the hollow between the Trisúl and Nanda groups rises the Sundardúnga or Redinga river, which, flowing nearly south down a narrow and most profound glen, joins (6,440 feet) the Pindar a little above Wáchham, affording probably the best and easiest route to the traveller desirous of penetrating to the core of the Nanda Devi mass. This stream has its source in a glacier like that at Pindari. East of Nanda Devi, in a deep *col*, is "Traills' pass," supposed by him to be 20,000 feet high; its eastern portion formed by the north-west shoulder of Nandakot, which mountain closes the view in a colossal rectangular summit of pure snow, with the glen of the Pindar easily made out. The line of perpetual or at all events of unmelted snow was very well defined along the whole extent of the range (September), certainly 2,000 feet below the crest of Traill's pass. The *Quercus dilatata* (*moru*) and *Quercus semecarpifolia* (*karshu*) oaks are abundant on the eastern exposure of the Dhákuri-bináyak. The descent on the western side is rapid, first through forests of *karshu* oaks, which soon becomes blended with abundance of *Abies webbiana* (*rágha*) forming boundless forests on this fine range. Below these, we passed down, through luxuriant meadows, nearly to the Pindar, opposite to the large village of Wáchham. Here a path strikes off to the left to Chiringa in the Pindar valley below Gwáldam, and when passable enables one to vary the return route to Almora. This long, but in general not very steep descent, leads to a torrent, from which the road again ascends considerably towards Kháti, three miles or so further, the road lying amongst horse-chestnut, maple, sumach, mountain bámbu, *Quercus incana* (*bánj*) and *moru* oaks, hornbeam (*gish*), ash, &c. Kháti

has no permanent village, but there is a Baniya's shop; the only cultivation, half a dozen fields of *chua* (*Amaranthus anardana*) Kháti, at an elevation of 7,200 feet, consists of some beautiful, open, and swelling lawns, closely hemmed in by exceedingly steep and lofty mountains, either covered with grass or enveloped in dark forest. On the north-west, about 300 feet below, the Pindar roars along its narrow gully, up which, whenever the clouds cleared a little, several high snowy and black, rocky peaks of the great range appeared close at hand—(*Madden*).

Dhanpur, a patti of parganah Dewalgarh, is bounded on the north, by the Alaknanda river; on the south, by pattis Bachhansyún and Kandársyún; on the east, by patti Ránígadh; and on the west, by Tihri. The Alaknanda receives the Mandákini on its right bank at Rudrprayág in the extreme north-west corner of this patti in latitude 30°-17′-10″ and longitude 79°-1′-32″. Thence a road follows the left bank of the Alaknanda to Karnprayág and is joined at Chhatwa pípal, where there is an iron bridge, by a road from the south, here crossing the Alaknanda on to the Kedárnáth road. Seven villages were received from Dewalgarh. The population in 1881 numbered 5,206 souls, of whom were 2,635 females. The patwári of this patti resides in Panái, where there is a school, and collects the land-revenue of patti Ránígadh also; both aggregated in 1864 Rs. 1,947 for *sadábart* and land-revenue and Rs. 64 for *gúnth* paid by 4,079 souls.

Dhaundyálsyún, a patti of parganah Malla Salán in British Garhwál, is bounded on the north, by Choprakot and Meldhar; on the west and south-west, by Bangársyún; on the south, by Sábali, and on the east, by the Kumaun pattis of Malla Chaukot and Garhwál Patti, Chauthán. On the north it is divided into two parts by Meldhár: the northern portion contains Jaspur on the Chariya stream and the Chaupatta tea-factory further south; the southern portion contains Búngidhár. The road from Almora to Páori passes through the southern portion of the patti. In 1864 the village of Kamuliya was received from Bangársyún. The patwári of Chauthán, residing at Kapholgaon, collects the land-revenue of this patti also, which amounted to Rs. 699 in 1884. The population, according to the census of 1881, numbered 2,369 souls, of whom 1,216 were females.

Dháron, a village on the left bank of the stream of the same name in patti Pátli Dún of Garhwál, is situate on the line of cart

road from Kotdwára to Rámnagar on the border of the Bijnor district. A good road passes hence to Páori, bifurcating at Dosoti to Kainúr (Kanyúr). The Páori road crosses the outer ridge by the Kanchanghâti pass to Sont-páni and the Kainúr line by the Bogti-ya khál to Kinanauli. From Sont-páni there is a slight ascent to Kanchanghâti and a descent to Pípalsoti, 5 miles 3 furlongs 33 poles, and thence to Dháron, 5 miles 3 furlongs 2 poles. From Kinanauli there is a slight ascent to the Bogtiya-khál and a descent to the Dánapáni river 3 miles: following the stream to a level crossing and then to the junction with the Pípalsoti stream at Dosoti and crossing and recrossing the united stream chiefly by bridges Dháron is reached, 8 miles 1 furlong 24 poles. There is a police-station and grain-shop here.

Dhauli (western), or white river, a principal tributary of the Alaknanda, rises in parganah Malla Painkhanda in British Garhwál near the Níti pass and unites with the Vishnuganga at Vishnuprayág near Joshimath, in latitude 30°-29′-30″ and longitude 79°-45′-15″, to form the Alaknanda. It has a most tortuous course and is to its junction a roaring torrent almost everywhere. There are three sudden falls in the river between the villages of Malári and Tapoban. The last, which is about six miles above Tapoban, is the greatest; in the space of 250 yards the fall is at least 150 feet. For the first portion of its course the river dashes below over huge boulders, the water being scarcely visible, while it ends in a fall of some 60 feet. In several places these boulders form natural bridges which are found useful when those constructed by the local authorities are swept away. The Dhauli is joined in its course by several snow streams, the chief being the Ghirtí and the Ríníganga, which last rises on the northern side of the Nanda Devi peak. The whole course of the Dhauli as far as Tapoban may be said to be through a narrow pass with almost perpendicular cliffs on either side several thousand feet high and wild in the extreme.

Gold-washing.

At a stream entering the Dhauli near Samangwenta the Dhuniyas wash the sand for gold. They use a primitive-looking but neatly-made cradle of reed work and are quite ignorant of the use of mercury for extracting the gold. Elsewhere the apparatus consists of a wooden boat-shaped trough, two shallow trays of wood, a bambu sieve, half a gourd, a little quicksilver, some pieces of skin, and scales and

weights. The trough is four feet long, eighteen inches broad, and as many deep, with a hole near the bottom at one extremity.[1] It is placed on the river edge, with the end in which the hole is, somewhat depressed. The sieve is formed of straight pieces of split bambu laid side by side, and is laid across the trough. One of the two persons employed in the operation spreads a trayful of sand upon the sieve, and the other, turning up its edge so as to prevent any of the sand from being carried off, pours upon it a gourd full of water. This he repeats until the water, having the finer particles of the sand in suspension, filters through the interstices of the sieve and leaves the stones and pebbles and coarser substances on the surface. As a sufficient quantity of these washings accumulates in the bottom of the trough, the water drains off through the hole in its lower extremity, and the mud which is left is then again washed for the gold. For this purpose it is taken up in the wooden trays and fresh water poured upon it: the trays are then turned round by the hand, and the coarser and lighter portions separately, and removed from the heavier and finer, until the largest grains of gold become visible and can be extracted, when they are wrapped up in the pieces of skin. In order to recover the firm particles of the metal the remaining portion of the sand is triturated with the quicksilver, and that again is driven off by heat.

Dhauli (eastern), a principal tributary of the Káli river in eastern Kumaon, has its remotest sources in the glaciers to the north-west of the Dawa encamping-ground (14,860 feet) leading to the Naya-dhúra or Dárma pass into Tibet in north latitude 30°-26′-0″ and east longitude 80°-31′-0″. The source lies to the north of the main range of the Himálaya and the valley of the river forms one of the two into which Malla Dárma is divided. It passes by Dawa, the Pungrung encamping-ground (14,100 feet), Khimling (13,060 feet), Rama (11,330 feet) to its junction with the Lissar on the left bank (10,370 feet). Thence by Dhánkur, Go and Sela to its junction with the Káli on the right bank at Khela-Syála-panth in north latitude 29°-26′-50″ and east longitude 80°-38′-40″. Its stream is in general a succession of violent rapids in a rocky channel amidst awful precipices and ravines. Webb describes it at twenty-five miles from its source as "violent, turbid, in continued rapids from six to twenty-five feet; bed rocky, average breadth from sixteen to twenty yards;" and adds, that after rain "the water is so foul and turbid as to be unfit for drinking." The road to Tibet by the Dárma pass proceeds up the course of the river, passing by means of spar bridges from side to side, according to the exigencies of the path, which sometimes winds along the faces

[1] Travels, Him. Prov., p. 7.

of nearly perpendicular precipices; yet, during the season when the passes are open, this difficult track is crowded by innumerable laden goats and sheep, bearing grain and other merchandise from the lower districts to Tibet. There is a difficult and dangerous pass from Rálam, on a feeder of the Gori, to Sípu and Marcha on the Lissar branch of the Dhauli which proceeds by the Phula-Yánkti stream.

Dhikuli, a village in the Kota Bhábar of Kumaon on the right bank of the Kosi, is situate in north latitude 29°-28′-5″ and east longitude 79°-11′-30″, at an elevation of 1,380 feet above the level of the sea on the Almora and Rámnagar road, 50 miles north-east from Murádabad. The formation of the hills, all the way from Rámnagar to Ukhaldhunga and up to 4,000 feet above the sea-level, is principally of sandstones, conglomerates, clays and layers of loose boulders imbedded in clay and sand. These formations alternate one with each other in the order stated, but the boulders in clay and sand do not extend much more than three hundred feet above the river bed. The sandstone is seldom reddish in colour and never purely red, shades of gray and greenish gray predominate. The hardness of the sandstone varies directly in the order of the depth of its stratum: that met with but a few hundred feet above the river is soft and friable; all the rest is harder in proportion to its height, but none can be said to be so compact as not to be broken up by an ordinary blow from a hammer. The conglomerates also are easily separable. There are two varieties of limestone: one a whitish coarse-grained stone, is abundant in the hills west of Dhikuli and is quarried for use within a few feet of the Rámnagar road. On the western limit of the cultivated fields of Dhikuli and in many places overhanging the main road is a ledge of conglomerate rock surmounted by extensive '*chaurs*' or levels intersected by a few ravines. On one of these are the remains of ancient buildings a few feet from the surface locally identified with that Bairátpatan, the capital of the old kingdom of Govisana, visited by Hwen Thsang in the seventh century. There are many fine specimens of capitals of pillars, medallions, figures of lions and other animals and other Buddhistic designs. Many of these have been used in a building near the suspension bridge as ornaments for archways, pillars and mantelpieces. Some of the

pillars are foliated, interspersed with birds, dragons, lions, &c. On a plateau above is an ancient well. Another set of remains exist on the Kua-ka-chaur, above Mohan. Dhikuli was formerly a station for a guard of native troops. The scenery around affords some of the wildest and most picturesque views in the whole of the lower hills and well repays a visit.

Dhugsúndhár, an encamping-ground on the road from Kálúshahíd to Páori, is situate in patti Talla Badalpur of parganah Talla Salán in Garhwál in the valley of the upper waters of the Paláin river, in latitude 29°-46′-0″ and longitude 78°-46′-0″: distant 12 miles 4 furlongs 10 poles from Chawalchhara, and 8 miles 3 furlongs 18 poles from Ukhlet. The road hence to Ukhlet ascends by the Chúndai-khál to the Kúlar-gadh, which is crossed by a bridge, and thence along the ridge to the valley of the Maidi river, along which it takes a course to the north-west, to the Maidi bridge on the road between Kotdwára and Khátali, 8 miles 1 furlong. Hence level for 280 yards and a slight descent to the ford across the Nyár river, on the right bank of which the encamping-ground of Ukhlet is situate in patti Maudársyún. This route is low and hot throughout, though the most direct. Supplies are unobtainable below this and should be taken hence.

Dhúraphát, a patti of parganah Phaldákot in Kumaon, is bounded on the north by Malli Doti and Chaugaon; on the west by Chauthán and Kosyán Malla; on the east by Chaugaon and on the south by Uchakot. Ten villages were transferred to and five were received from Chaugaon at the recent settlement. It is a hilly tract with little cultivation. The principal villages are Berhlek, Balyáli and Músyoli. The assessable area comprises 1,360 *bísís*, of which 1,010 are cultivated (19 irrigated) and 349 acres are culturable. The land-tax yielded Rs. 878 in 1815, Rs. 1,021 in 1820, Rs. 1,114 in 1843, and now amounts to Rs. 1,324, which falls on the total assessable area at Re. 0-15-7 per acre and on the cultivation at Re. 1-4-11. The population at settlement numbered 2,379 souls, of whom 1,259 are males. The patwári resides at Chápar and there is a school at Haldyáni.

Dhyánirau, a parganah of Kumaon, comprises six pattis, all of which are separately noticed—*viz.*, Bisjyúla, Chhabís Dumaula,

Chaubhansi, Chaugadh, Malli and Talli Rau. The assessment of the land-tax at each settlement was as follows:—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
4,078	4,279	4,935	5,428	5,746	6,052	6,190	6,257	10,484.

The incidence of the revenue on the whole assessable area falls at Re. 0-12-6 per acre and on the cultivation at Re. 1-2-9 per acre. The assessable area comprises 13,381 *bísís*, of which 4,419 are culturable and 8,961 are cultivated (860 irrigated). The population at settlement numbered 8,996 males and 7,786 females; in 1872, 8,685 males and 5,813 females; and in 1881, 5,121 males and 4,816 females, a part of the population being enumerated in the Bhábar. Six hundred and seventy-four *bísís* were appropriated as temple grants. There are 134 mahál or estates comprising 171 villages. The upland portion of this parganah occupies the basin of the Ladhiya river from Devi Dhúra on the north to the Bhábar on the south. In Chaubhainsi the chief wealth of the inhabitants consists in their herds of cattle, which they pasture on the hills in the summer and take down to Chorgalia in the Bhábar in winter. Some of the villages are large and populous, but the cold climate is averse to agriculture, and even hill rice is not grown. In Malli and Talli Rau there are abundant crops of wheat, rice, millets, and turmeric, and its irrigated lands yield the fine kind of rice known as *básmati*. The Kaira, Bora and Deo clans are the principal landholders; the two former colonised the sub-divisions called after them to the west of Almora. There are mines of iron of good quality at Manglalekh and of copper at Kemu-khet. In the settlement and census papers the parganah is divided into two parts—the Dhyánirau portion in tahsíl Champáwat and the Chaubhainsi portion in tahsíl Bhábar, a proceeding which creates some confusion in returns.

Díndíhát, a patti of parganah Síra in Kumaon, is bounded on the north, by patti Goriphát of parganah Juhár; on the west, by Tallades of the same parganah and Athbisi Talla and Máli; and, on the south and east, by the Askot pattis. The road from Bágeswar by Thal to Askot passes through Díndíhát, of which the principal villages are Bhunurha, Guráli and Wagla (from Díndíhát). The assessable area comprises 1,079 *bísís*, of which 268 are culturable and 811 are cultivated (621) irrigated). The land-tax amounted to

Rs. 501 in 1815, Rs. 706 in 1820, Rs. 817 in 1843, and is now Rs. 1,560, which falls on the total assessable area at Rs. 1-7-1 per acre, and on the cultivation at Re. 1-14-9 per acre. The population at the time of settlement numbered 1,488 souls, of whom 785 were males. The patwári usually resides at Merthi; there is a school at Hát.

Diuri Tal, a small lake about seven miles north-east of the village of Ukhimath on the ridge of a spur which extends from the Badrináth peak to the Mandákini river below the above-named village. The lake is about 400 yards long by 250 yards broad and 66 feet deep. It is of an oval shape. It is very deep on the northern side and is nowhere very shallow. The view from its banks is one of the grandest in the hills, the whole mass of Badrináth being visible from base to summit at a distance of about 15 miles. Early in the morning the snowy range is clearly visible reflected on the water. This range includes the Badrináth and the Kedárnáth peaks to the west of it. The elevation of Diuri Tál is about 8,000 feet—(*Garstin*).

Diwálí, or Dwáli, a halting-place on the route to the Pindari glacier, 8 miles from Kháti, 70 miles from Almora and 5 miles from Phurkiya, is situated in patti Malla Dánpur of Kumaon, at the confluence of the Kuphini and Pindar rivers.

The path from Kháti lies first on the left bank of Pindar, then for a short distance on the right and finally returning to the left, keeps nearly to its level, except a few short but steep ascents and descents. The scenery is magnificent, the mountains rising like walls to a vast height on each side, broken into great buttresses and universally clothed with the deepest forest, amidst which three or four fine cascades pour down their mass of foam from an immense height. The last of these near Diwáli falls from a table-land which must run up close to Nanda Devi over ledges of slate rock. The encamping-ground at Diwáli stands in an angle where the Pindar receives on its left bank the Kushini or Kuphini river. Their waters are of a dirty milk colour in the rains, and the bed of the combined stream is obstructed by some great boulders, against which it dashes with great force. The vegetation on the road from Kháti comprises great clumps of the *Arundinaria falcata* (*ningál*), and all those near Kháti (*q. v.*) except the *Quercus incana*; to these may be added the elm (*Ulmus erosa*) called *chumbarmaya*; *Juglans regia* (*akor*); *Cerasus cornuta* (*jamuna*); *Spiræa Lindleyana*; *Leycesteria formosa* (*kulnuliya*); *Hippophæ salicifolia* (*dhúr chúk*); *Ampelopsis Himalayana* (*chhapara*); the arborescent *Hydrangea* (*bhu-chatta*); the hazel (*Bhotiya badám*); *Corylus lacera* (*kapási*); *Piptanthus nepalensis* (*shalgari*); the red and black currants, *Ribes glaicale* and *acuminata*, known as *kokuliya*; *Berberis*

Walli chii, and the silver fir, *Abies Webbiana*, which is common above Diwáli and is known as *rágha*. The undergrowth consists of *Strobilanthes* (balsams), *Rubus*, *Cucumis Himalensis*, *Cuscata verrucosa*, *Polygonum runcinatum*, *molle* and others. *Oxyria elatior*, *Tricholepis nigricans* (Edge.), *Senecia nigricans*, *alata*, *canescens* and *chrysanthemifolia*; *Aster ferrugineus* (Edge.) and *alpina*; *Inula Royleana* and *Jussilago* are very abundant on the rubble.

Dol, a village in patti Mahryúri Dolphát of Kumaon, is situate in north latitude 29°-29′-30″ and east longitude 79°-48′-25″, on the road between Almora and Devi Dhúra. It possesses a former traveller's bungalow on a site 6,022 feet above the level of the sea. The stages now are Lamqarha, five miles west of Dol and nearer Almora and Mor-naula, six miles east of Dol and nearer Devi Dhúra. Dol itself is a pretty hamlet on the spur below the bungalow; still further down, in the various glens to the east, are scattered the villages of Sálam, celebrated for their excellent rice. A little north of the bungalow rises the eastern branch of the Kúmniya river with the road to Almora, on its right or eastern bank. Three *kos* from this, at the junction of the south-eastern or main branch, stands the rather famous shrine of Kapleswar, with a large temple dedicated to Mahádeo, built by Udit Chand, son of Baz Bahádur, on the north bank, at the supposed spot where the sage Kapila did penance, and where across the junction Seshnág, the serpent king, was similarly engaged. There is scarcely a confluence of two streams in the mountains where Mahádeo is not worshipped. The present site is a narrow, pine-clad glen, just at the end of the cultivated lands; a mile lower down, the Kúmniya forces its way amidst great smooth boulders of granite, the débris of the mountains above; here, on its south bank, facing Raulakot, is a huge outburst of granitic masses, piled one over another to the height of 150 feet; the highest and most external, shaped like the beak of an anvil, is known as the Birdeo—(*Madden*).

Domaila, a village and halting-place on the route from Kainúr to Rámnagar, is situated in patti Khátali of parganah Malla Salán in Garhwál, in latitude 29°-50′-30″ and longitude 79°-4′-10″, distant 7 miles 5 furlongs 23 poles from Gyúnlád on the Kotdwára road, 6 miles 3 furlongs 28 poles from Baijirau, and three miles and-a-half from Bhatwára, the usual encamping-ground south of Baijirau, under which the stage is described.

Dora Malla, a patti of parganah Páli Pachhâon in Kumaon, is bounded on the north by pattis Walla Giwár and Kairárau; on the west by pattis Bichhla and Talla Dora; on the south by patti Athágúli Palla, and on the east by the same patti and Kairárau. This patti was formed from Dora Malla and a portion of Dora Talla at the recent settlement. The drainage runs south-east by the Riskoi-gadh, a tributary of the Gagás. The principal village is Dwárahát (*q.v.*), from which roads branch off to Bágeswar by Someswar, to Lohba by Ganái, to Srínagar by Mási, and to Ránikhet and Almora. The whole patti is very highly cultivated, but at the same time is remarkably devoid of forest, low and hot. Other villages of some importance are Banoli, Hát, Kotila, Kaháli, Sulúna, and Mirai Purainiya. The statistics of the Malla Bichhla and Talla pattis may be shown thus:—

Dora.	Assessable area in bisys.				Assessment in rupees.				Population.	
	Total.	*Cultivated.*		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Malla ...	2,958	20	2,397	540	615	1,360	1,301	2,708	2,344	2 094
Bichhla ...	3,785	62	3,294	428	1,505	2,307	2,217	3,629	2 717	2,631
Talla ...	4,963	96	4,190	676	1,151	1,730	1,801	3,915	3,405	3,015

The land-tax falls on the total assessable area in the Malla patti at Re. 0-14-8 per acre, in the Bichhla patti at Re. 0-15-4 per acre, and in the Talla patti at Re. 0-12-7 per acre: the incidence on the cultivation is Re. 1-1-11 per acre in the Malla, Re. 1-1-4 in the Bichhla, and Re. 0-14-7 in the Talla patti. There is a school at Hát. The patwári resides at Dwára.

Dora Talla, a patti of parganah Páli Pachhâon in Kumaon, is bounded on the north by Talla Giwár and Walla Giwár; on the west by the former patti and Walla Nayan; on the east by Bichhla Dora, and on the south by Silaur Talla. Patti Dora Bichhhla was separated from Talla Dora at the recent settlement. This patti comprises the elevated tract drained by the Masaun and Babwa torrents, tributaries of the Gagás. The principal villages are Dúngarkhola, Bajan, Khanoliya, Bhanyúti, Takúlti, Dhumerha,

Rhikárh, Surál, Sananai, and Báonli. The Balwágadh, a tributary of the Gagás, forming the eastern boundary, drains this patti on the east and the Gagás itself on the south. The statistics will be found under Dora Malla. Three villages were transferred to the Malla patti at the recent settlement. The patwári usually resides at Jálali, where there is a school.

Dora Bichhla, a patti of parganah Páli Pachháon in Kumaon, is bounded on the north-west and west by Talla Dora; on the north-east and east by Malla Dora; and on the south by Athágúli Palla, Silaur Malla, and Talla. This patti was formed from Talla Dora at the recent settlement, and its statistics will be found under Dora Malla. The principal villages are Bhatkot, Bitholi, Bedhúli, Busera, Erha, Asguli, Kande, Chhatgúla, and Semalgáon. It is watered by the Bhaiárao and Riskoi, both tributaries of the Gagás, which flows along its southern boundary from east to west. Three villages were received from Silaur at the recent settlement. The patwári usually resides at Asguli, where there is a school.

Doti Mallí, a patti of parganah Phaldákot in Kumaon, is bounded on the north by Athágúli Walla and Silaur Walla; on the west, by Kákalasaun Walla and Chauthán; on the south by the latter patti and Dhúraphát; and on the east by patti Chaugáon. Six villages were transferred to, and three were received from, Chaugáon at the recent settlement, and one each from Kosyán Malla and Silaur. Doti Mallí occupies the valley of the Kúchgadh, a tributary of the Kosi river. The principal villages are Baina, Manári, and Pándekota. The assessable area comprises 1,256 *bísís*, of which 219 are culturable and 1,036 are cultivated (two irrigated). The land tax yielded Rs. 577 in 1815, Rs. 705 in 1820, and Rs. 779 in 1843. The existing assessment amounts to Rs. 1,156, which falls on the total assessable area at Re. 0-14-9 per acre, and on the cultivation at Re. 1-1-10 per acre. The population at settlement numbered 2,295 souls, of whom 1,199 were males. The patwári usually resides at Chápar.

Dúg, a patti of parganah Dánpur in Kumaon, is bounded on the north by Dánpur Malla and Nákúri; on the west by Katyúr Talla; on the east by Nákúri and Kamsyár; and on the south by the latter patti and Kharáhi. Dúg received one village from Kharáhi, 29 from Katyúr Talla, and eight from Dánpur Talla at the recent

settlement. It occupies the valley of the Pungárgadh from Sisani, by Maugáon, Chaur, and Dúngari to its confluence with the Sarju on the left bank, a little north of the confluence of the Lahor river on the Bâgeswar and Kháti road. The principal villages are Junail, Dhapti, Mandalsera, and Parhoi. A fair path leads along the Pungár valley to the east. The assessable area comprises 2,732 *bísis*, of which 1,295 are cultivated, 683 irrigated, and 1,437 are culturable. The land tax, in 1815, yielded Rs. 227 ; in 1820, Rs. 330 ; in 1843, Rs. 557, and now gives Rs. 2,117, which falls on the total assessable area at Re. 0-12-5 per acre, and on the cultivation at Re. 1-10-2 per acre ; 196 *bísis* are held in *gúnth* and 47 are free of revenue. The population at settlement numbered 1,075 males and 895 females. The patwári usually resides at Aneriya, where there is a school.

Dúgli, a halting-place on the route to the Pindari glacier in parganah Dánpur of Kumaon, is distant from Diwáli about five miles: the rise is gradual and continuous along the left bank of the river, which about two miles from Diwáli becomes one series of rapids and cataracts rushing among and over brick-coloured boulders.

The Pindar flows at a depth of 150 to 200 feet below Dúgli, whence and indeed from the glacier its course towards Diwáli is nearly straight from north to south. On the right bank of the river, there are four or five fine cascades fed by the snow and falling over the bleak bare rock above the line of vegetation in copious sheets of spray. On the left bank, the cliffs and shivered pinnacles are more remote and rise from a tract of undulating ground, strewed with great rocks and covered with forest and brushwood Two miles from Diwáli, a hut and grazing-ground, called Tun Pachuri, is met with, a little to the east of which, a superb cascade falls from the height, in three distinct leaps. Approaching Dúgli, the glen narrows, and the wild crags and bluffs on the right bank of the river appear only a few hundred yards distant. A cave or *udiyár* here affords a good shelter in storms ; height estimated at 11,500 feet. The vegetation towards Diwáli comprises the trees mentioned under Diwáli with silver fir (*Abies webbiana*), birch (*Betula bhojpatra*), *Rhododendron arboreum* and *barbatum*, maples, *Viburnum nervosum* and *cotinifolium*, *Rosa webbiana*, and *sericea* (*sephala*, Bhot), *Berberis brachystachys* (Edge), *Jasminum revolutum*, *Syringa emodi* (*ghiya*), *Lonicera obovata* and *webbiana*, several sallows, the red and the white fruited mountain-ash, *Pyrus foliolosa* (*sáliya*, *haliya*) and extensive thickets of *R. campanulatum*. The pasture and streams abound with Alpine plants, such as *Spiræa kamtchatkika*, *Cynoglossum uncinatum* (*kúra*), *Aplotaxis aurita*, *Carduus heteromallus* (*sum kaniau*), *Swertia perfoliata* (*simuriya*), *Cyananthus lobatus*, *Impatiens moschata and gigantea*, *Rhodiola imbricata* (Edge.), *Saxifraga parnassiæfolia*, *Caltha himalensis*, *Elscholtzia polystachya*

and *strobilifera*, *Podophyllum emodi*, *Salvia moorcroftiana*, and *Delphinum vestitum*. At Dúgli, the *Potentilla atrosanguinea* (*bhui kaiphal*) commences, and is common towards the glacier, and near the latter only occurs *Aconitum heterophyllum* (*atis*).

From Dúgli, the base of the Pindari glacier, distant about four miles, is reached in about two hours: the ascent very gradual and for the most part over sloping lawns, bounded on the east by high crags and covered with *Geranium Wallichianum*, *Potentilla atrosanguinea* and other species, *Ligularia arnicoides*, *Morina longifolia*, *Primula glabra*, *Paraochetus communis*, *Cyananthus*, *Saxifraga spinulosa*, *Polygonum brunonis*, and others, *Sibbaldia procumbens*, *Ephedra gerardiana*, several species of *Gentian* and *Pedicularis*, &c. The only bushes beyond Dúgli are the *Rhododendron campanulatum*, *Lonicera obovata*, willow, birch, rowan, all diminutive and ceasing wholly about a mile short of the glacier, except the juniper and the *Cotoneaster microphylla*, both of which flourish on its edges; the latter hardy little shrub seeming equally at home here as on the hottest banks at Almora. The west bank of the Pindar is precipitous for about two miles above Dúgli, where a cave is pointed out, said in days of yore to have been tenanted by Bhíma, the Pándava; not, however, till after the manner of St. George and St. Patrick he had expelled and slain certain dragons and serpents, the original occupants. Above this cave, the right bank also becomes undulating, and exhibits the trace of a road which formerly led to the glacier, till the bridge was carried away, the slopes then are covered with low thickets probably of *Rhododendron lepidotum*. In the north-west Himálaya, the passes, contrary to the fact here, are all gained by the north-west banks of the streams, here in general by the south-east. (*Madden*, J. A. S Ben. XVI. 226.)

Dúng, a halting-place in patti Malla Juhár, of parganah Juhár in Kumaon, lies on the route from Milam to the Unta-Dhura pass into Tibet, 144 miles north-east of Almora, about four miles south of the crest of the pass and eight miles from the next camping-ground. There are no houses at Dúng, but merely an indifferent encamping-ground close to the junction of the Ganka and Laser, two glacier streams descending during summer in a southern direction, and which form the eastern branch of the Gori. Even firewood must be brought from three miles lower down to the southward: elevation above the sea, according to Barron, 15,450 feet; Strachey, 13,700; Great Trignometrical Survey, 13,720; north latitude 30°-3′; east longitude 80°-14′-30″.

Dúngari, an encamping-place in Jaunsár, 14 miles from the junction of the Tons and Pábharu and 13 miles from Mendráth. The old track from the former place keeps for some time along the course of the river very rough and winding until reaching a smaller stream, it strikes up the glen and crossing it a little way up ascends the opposite hill. The range here ends on the river in a remarkable peak, which is marked as a melon with deep indentures

vertically cutting its bulged conical sides. Hence the path hangs above the river, and is very steep and precipitous. Further, a deep descent to a small valley and afterwards a series of ascents lead to Dúngari. The prevailing rock is limestone ; blue and white-veined sandstone and ferruginous rocks are also to be found. In many places all these stones mingle in one huge mass, as if they had been melted down together, suggesting the likeness of marbled paper ; much calcareous matter is found binding this mixture, and settling on it in masses closely resembling hard mortar as it is detached from old buildings, full of small stones and gravel bedded in its substance : these masses are perfectly amorphous, and, with the mortar-like substance of rock attached to them, it seems as if, when the whole had melted, the hard parts had settled downwards, and that this, like dross, had remained floating at the top. (*Fraser.*)

Dúngari, a village in patti Pindarpár and parganah Badhán of British Garhwál, also a resting-place on the route from Almora by Baijnáth to Nandprayág in the tract locally known as Sol patti, is distant 11 miles from Bánjbagar and 10 miles from Jolabagar. The road hence to Bánjbagar ascends the northern face of the Mánil hill and enters a magnificent forest of *tilonj* (*Quercus dilatata*), oak interspersed with cypress and fir. The undergrowth is composed of a species of bambu known as *ringál*, which affords refuge to herds of wild-pig, *thár, jaráu, saráu*, and other kinds of deer. The road thence passes along the southern gorge of the Koara peak (10,990 feet high), amid the same kind of forest interspersed with glades covered with grass. At the summit of the pass there is a morass containing a little water and known as Súkha Tál, where water-fowl are occasionally met with. To the west, the road descends gently down the valley of the Chajauligadh and passes Baingoli on to Bánjbagar, where there is a charming encamping-ground in a glade of the forest and by the river. There are several other places in the forest used as encamping-grounds by the Bhotiyas, which would form admirable head-quarters for the sportsman, painter, or naturalist.

Dwárahát or Dorahát, a village and resting-place on the route from Almora to Garhwál, lies in latitude 29°-46′-54″ and longitude 79°-28′-8″ in patti Malla Dora and parganah Páli of the Kumaon

district, 13 miles from Bhainskhet, 27 miles from Almora, 9½ miles from Ganái, and 12 miles from Ránikhet. The elevation of the travellers' bungalow (chimney) above the level of the sea is 5,031 feet according to the Great Trigonometrical Survey records. There is here a shop for the sale of grain, a travellers' bungalow (without cooking utensils), a post-office, school, and dispensary. Dwárahát in former days was the residence of one branch of the Katyúri Rájas, an outlying district of the kingdom of which Lakhanpur near Ganái and Bhatkot was the head-quarters. The remains of very many ancient temples lie scattered in groups and lines over the fields. They are of the usual pyramidal form ornamented with from three to five rows of a simple moulding on the outer edges and surmounted by an ornament resembling a Turk's cap. All are more or less in ruins and are no wused as granaries and straw-lofts. Having been desecrated by the Rohillas (Ruhelas) during their invasion of this part of Kumaon, they are no longer held in reverence, and in many places the stones of the temples and carved pillars are made use of to mend the terraces of fields. Some of the pillars contain in a panel two rude figures with arms stretched out at right angles to their body, resembling a badly-made rag-doll. All the temples are of plain construction with the exception of one near the Syálde Pokhar, by a clump of date-trees and an old *silanj*. This is elaborately carved with row after row of figures representing gods, men, elephants, &c. It is, however, in bad repair, and its graven images and stones lie scattered around. The Syálde tank, close by, produces large numbers of the pink lotus during the rains. It is so called from the Syálde (Siyálde) clan of Rajpúts who assemble here annually in Baisákh to indulge in the mimic warfare of the *bagwáli*. Formerly it was customary to use slings and stones, but this has been forbidden owing to the occurrence of serious accidents. The remains of the entrance to the temple still exist of a cruciform shape; whilst the shrine itself is about seven feet square. The whole consists of three broad abutments connected by three narrower: the fourth side forming the entrance. The inner sides of each abutment join together to form the adytum. The outer side to about three feet displays a moulding, then comes several rows of figures in relief and panelled, and the upper row in panels contains figures fully two feet high. The friable nature of the

stone employed as well as exposure to the rain has rendered the original delicate carvings obscure. Even such as it is, the remains, some 17 feet high, are worthy of being preserved, though many of the stones have been removed for the buildings in the neighbouring bazaar. To the north-east is the Dúnagiri or Dronagiri hill; to the north Nágárjun; to the east an eminence called Chandragiri and by the people Chanchári; to the south the Dharmagrám; and to the west the Búngagrám. The palace of the old Rájas was built on the rock called Tharp on the Chandragiri hill, where it is said the Katyúris used to cut off the hair and noses of prisoners.

Just below the palace the bazaar commences, and at the end of it is the Mritunjaya temple with a broken pinnacle, west of which is the Badrináth temple, the most important of those now in existence. It comprises three of the older temples surrounded by a courtyard in which is a Dharmsála or resting-place. Many stories are told about the principal temple: one that I was expected to believe was that at its erection a sixth workman was always visible, though five only were employed. From Dwára, westward, all the principal temples are ascribed to Sankaráchárya, and those here form no exception. The principal temple[1] dedicated to Badrináth is about 50 feet high ending in a truncated circular ornament open at the top. The old image was desecrated by the Rohillas, and the new one is of modern make and is surrounded by 10 or 12 others, one of which bears the date 1105 Saka or 1048 A.D., and on another representing Ganesha is the date 1103 Saka. The image of Lakshmi is in a small temple to the north, near which is a ruined temple known as Unerdewal. A great pípal tree now grows out of a crack in the walls near the Dharmsála. Two of the rest-houses were built by the Chaudhris and another by Dámu Sonár. The temple of Mrityunjaya has been deserted, the people say, because strange voices were heard within it, but really because the establishment cannot afford to keep up the worship. The Doms have a temple dedicated to the worship of Kálsain.[2] Sítala Devi is worshipped in another near the Syálde Pokhar, where a fair is held on the Bikh Sankránt, in April. The Kot-Kangra Devi is the *Kula Devi* of the Chaudhri family, who emigrated hither from

Badrináth.

[1] This is under the Rawal of Badrináth in Garhwál, who arranges for the services. [2] Gazetteer, XI. 831.

Kangra in the time of the Rájas and were largely employed by them in civil duties. Her temple is on the north side of the tank. The Chaudhris themselves live in Haripura, and employ the priests of Sítala as *pujáris*. Brahm Deo and Dham Deo, the Katyúri Rájas, are also worshipped here.[1] There is a platform or *chabútra* erected by the Chaudhris, but now owned by the State; and several partly-finished temples near the tank and a group of seven in the cultivated fields called Ratnadewal, but none have any idols in them, and their origin is unknown. In the upper bazaar is a temple to Mahádeo in ruins, the image having been removed to the Badrináth temple, and near it three others, one of a circular form with a verandah. Towards the Tharp there is a row of temples with pillared entrances called the 'Court-temples' (*Kachari-ki-dewal*) all used as wood and hay stores. Above them are two other temples and the school established in 1857.

Tharp.

A flight of steps leads up to the Tharp-tilah, where there is a temple now devoted to the worship of the village deities[2] Haru, Látu, &c., adorned with iron lamps at each corner and two four-branched lamps of the same metal; whilst an iron spade and a number of scourges are placed in the room, and on festal occasions the persons possessed by these gods dance, and whilst in a state of frenzy from their exertions are supposed to reveal the future. Below the Tharp is a noted temple of Kálika Devi, to which the people have recourse when any illness is abroad. The temples altogether number 30; but with the exception of those dedicated to Badrináth, Kedárnáth, Sítala, Kot-Kangra Devi, and Kálika Devi, few are used for religious purposes. A portion of an inscription has been carried from Dwára to Dúnagiri, bearing date 1105 Saka (1029 A.D.), and the early part of the 11th century may be taken generally as the date of the erection of the principal temples in Dwára itself. At the celebration of the Dasahra, a considerable fair used to be held at the old temple on Dúnagiri, where religion and commerce went hand in hand, and sins were washed away and new garments purchased. Trade has since found other outlets, whilst religion is not now-a-days a sufficient inducement to undergo the toil of climbing to the aërial residence of the god.

[1] Gazetteer, XI. 831. [2] *Ibid.*

Dúnagiri.

Dúnagiri or Dronagiri is composed of blue clay slate, with some quartz apparently rising towards Bhadkot. In the same direction as the gneiss, towards the eastern base of the mountain, there is a great deal of red ochry soil, probably arising from the disintegration of the slates and quartz. Dúnagiri, as seen from Dwára, is a fine saddle-back mountain, its easy slopes covered with woods and clumps of *bánj* (oak), interspersed with spacious glades of meadow. The summit may be about two miles distant from the bungalow, and is continued far to the north-west in a range of nearly equal elevation. In a pretty cultivated dell, along its south-west side, flows the Kothlár Nadi, of which the source is at Dwára: from Dúnagiri, the road to Lohba and Badrináth follows the course of the Kothlár towards the Rámganga, beyond which appears the lofty range called Duda-ki-toli attaining above 10,000 feet elevation; another road leads *viâ* Páli to Srínagar; there is also a route, though a bad one, to Kakari-ghát near Manars, on the Kosi. (*Madden.*) Traill mentions the existence of tombs substantially built of large tiles at Dwára, which he considers are memorials of the Mughals located there in the course of Tímur's invasion of Hindustan. In support of this theory are the groves of the common date palm (*khajúr*) only planted by Musalmáns[1] in India and the foreign names of several villages and local subdivisions here. There are now no Musalmán inhabitants, the people of importance being descendants of decayed official families of Hindu origin, most of whom assume the affix "Chaudhri" or headman as a title of respect.

Routes.

Taking the road from Bhainskhet, it winds up the hill to the west, by the villages of Rankhíl and Basyúr, and passing between the peaks of Dhirwa (4,512) on the south and Málkot (4,994) on the north crosses the Kauriya by a wooden bridge near the village of Kaphalna, and thence winding amongst bare hills crosses the Gagás stream by a bridge at the village of Bánsuli sera in latitude 29°-43′-30″ and longitude 79°-32′. Thence it again ascends in a north-westerly direction through the villages of Bagwáli Pokhar and Bhandargáon, until it joins the road from Ránikhet and Naini Tál by the village of Bhaunra. Here the road ascends the valley between the Kaháli (4,311 feet) peak on the west and the Chanchári on the east, to the water-shed between the Kosi's tributaries and those of the western Rámganga. Close to this the bungalow is built, surrounded by the villages of Hát Bahmanpuri, Dairi, Bijaipur, Kálúdák, and

[1] Gazetteer, XI. 5, 12.

Bhûmkiya. To the east a peak rises to the height of 5,031 feet. Hence roads branch off for Páori by Másí on the west and by Someswar to Baijnáth on the east. The Karnprayág road follows the valley of the Kothlár-gár in a direction north-north-west to Ganái on the Rámganga, passing by the blue-slate quarries and iron mines of Chiteli on one of the spurs of Dúnagiri on the right. The road from Bhainskhet is hot and low, passing through a richly cultivated country almost entirely devoid of trees or shade of any kind.

Dwársaun, a sub-division of parganah Barahmandal in Kumaon, lies to the south of the road from Almora to Ránikhet. At the recent settlement it contained an assessable area of 812 *bísís*, of which 595 were cultivated and 217 were culturable. The land-revenue, in 1815, amounted to Rs. 193; in 1820 to Rs. 208; in 1843 to Rs. 216, and is now Rs. 645, which falls at Re. 0-12-9 per acre on the total assessable area, and at Re. 1-1-4 per acre on the cultivation. The population at settlement numbered 1,402 souls (674 females). The patwári usually resides at Dandgalya, where there is a school.

Fatehpur Talla, an encamping-ground on the route between Kotdwára by Khátali to Kainúr (Kanyúr) is situate in patti Síla of parganah Talla Salán in Garhwál, distant 10 miles 9 poles from Kotdwára and 11 miles 7 poles from Maidi, the next stage. The road from Kotdwára gently ascends the left bank of the Koh river to the Do-gadh stream, 8 miles 2 furlongs 24 poles, where it branches off to the north-east to Fatehpur, 1 mile 5 furlongs 25 poles. From hence to Maidi the road continues to ascend by the Bhalás-khál across the Dewál-khál or pass 3 miles 6 furlongs 29 poles to Gúm-khál, 2 miles 5 furlongs 33 poles. Hence a descent leads by Tilsiya-dhár to the Kúlárgárh 3 miles 0 furlongs 7 poles in the Maidi valley. The Kulwari-gadh is then crossed, and the Maidi river, the encamping-ground lying a little east of its confluence with the Nyár on the left bank of the latter stream.

Gágar or Ghágar, a lofty mountain range forming the most southern brow of the Himálayan system, is situate to the south of the Kosi river from Mohan eastwards. It extends in a direction nearly from north-west to south-east for about 35 miles in length, with an average breadth of probably 10 to 12 miles. Commencing on the east we find on the eastern boundary of patti Kosyán Talla the Sonchaliya peak attaining an elevation of 8,504 feet; to the south-east lies Badhán-Dhúra (8,408); further east a peak rises to 8,244 feet, and still to the east Badhántolí has an ele-

vation of 8,612 feet. The main ridge still running slightly south-east takes a sudden bend south by Bináyak (8,186 feet), in latitude 29°-26′-52″, longitude 79°-27′-50″, and thence again south-east to Chína (8,568 feet) at Naini Tál. To the north-west of Chína, a ridge stretches out west to the Dabka river, of which, a peak to the north of the village of Mahraura, attains a height of 7,403 feet. Though the most southern range of the great Himálayan system, and the most remote from the line of greatest elevation, it exceeds in height most of the ranges which intervene. This circumstance has been pointed out by Herbert. "On each side of this line (that of greatest elevation), to the north as well as to the south, the peaks diminish in elevation, yet not equally. To the southward the decrease is more rapid, and is accompanied by an anomaly which is sufficiently striking. The diminution of elevation, which is pretty regular till near the boundary of the plains and mountain-land, is there suddenly interrupted. The peaks shoot up considerably above the mean elevation of those immediately north of them, and as suddenly sink into the plains; so that if we divide the country south of the line of greatest elevation into five parallel zones, the fifth will be as high as the third, while the fourth will be found considerably lower than either." Its rock formation is gneiss throughout, "characterised (1) by its small proportion of feldspar; (2) by the predominance of talcose or argillaceous ingredients; (3) by the singular types under which it sometimes appears, or, in other words, its transition into very anomalous rocks. It is of a schistose, rather than a slaty structure; has a talcose aspect, varying in colour from a greenish to a yellowish grey, soft though tough, and of that peculiar composition which entitles it to be called gneiss, though of so small a grain as to occasion the separate ingredients to be not easily recognisable. Besides the feldspar and talc it contains quartz, and occasionally hornblende. The strata of which the Gágar is composed dip very regularly at some points, varying between east and north, the inclination generally very small, though sometimes as high as 40°. The Gágar range is also known as Gargáchal, from the legend that the Rishi Gargá once resided near the Gágar fort.

Gagás, a stream rising in patti Kairárau of parganah Barahmandal in Kumaon near Dúnagiri, in latitude 29°-49′ and longitude

79°-30′, flows nearly due south through that patti. The road from Dwárahát to Someswar crosses it at Bhataur in Kairárau and the road from Bhainskhet to Dwárahát by a wooden bridge near Bánsuli-sera. Here the channel is broad and thickly strewn with boulders, which give evidence of a considerable volume of water in the rains. Hence the course is nearly due west through Athágúli, where it receives on the right bank the Chandás stream and further west on the same side the Riskoi river and the Balwagadh from the north, and pursues the same course until it joins the Rámganga (western) on the left bank at Bhikiya-ki-sáin, in latitude 29°-42′-8″ and longitude 79°-18-′-20″. The stream is locally connected with the name of the Rishi Gargá.

Gagwársyún or Gangawársyún, a patti in parganah Bárahsyún of British Garhwál, is bounded on the north, by Idwálsyún and Nádalsyún; on the south, by patti Manyársyún; on the east, by the Nádal, Paidúl, and Patwal pattis, and on the west, by the Siton and Banel pattis of the same parganah. The name is usually pronounced Gagwársyún. The population in 1881 numbered 3458 souls, of whom 1795 were females. In 1834 the village of Dewar was transferred to patti Sitonsyún. The táhsíldár residing at Páori collects the land-revenue of this patti, which amounted to Rs. 1309 in 1884. The principal villages are situated in the upper valley of the Randi Nadi, and are Gagwára, where there is a school, Púndori, Dháng, and Negiána.

Gála, a hamlet and ridge on the borders of pattis Byáns and Chaudáns in parganah Dárma of the Kumaon district. The hill is called Nirpániya-dhúra by the people of lower Kumaon from the absence of water. The eastern extremity where crossed by the road is sub-divided by two shallow ravines into three minor ridges, which differ little in height, and may be 3,000 feet above the village of Gála, or about 10,000 feet above the level of the sea. The descent hence to Golam-lá is about 3,000 feet down a narrow and steep path, looking rather precipitously into the bed of the Káli several thousand feet below.

Gamsáli, a village in the Malla patti of parganah Painkanda in British Garhwál on the route from Joshimath to the Níti pass, 15 miles south of the latter, in latitude 30°-44′-45″ and longitude 79°-52′-35″, at an elevation of 10,317 feet above the level of the sea.

It is situate in the angle on the right bank of the Dhauli (western), where the river flowing southwards is joined by a glacier torrent from the north-west, and passes from a deep ravine bounded on each side by enormous precipices of gneiss and granite into a picturesque and well-wooded glen. Gamsáli is the third largest village in the Níti sub-division of the Bhotiya mahál (*q.v.*). There is a village school here during the summer months. A quantity of flat land round the village bears crops of barley, buckwheat, and oats. Immediately behind the village, the mountain rises in an almost perpendicular cliff to a height of several hundred feet, while, on the opposite side of the smaller stream, the cliffs are of the same description: so to the north-west, the eye runs up a valley filled with huge boulders of granite, and rests on endless snowy peaks. To the south, is an open valley containing other villages and fairly-timbered, much resembling a valley in the north of Scotland. In May, when visiting this place, avalanches kept falling every afternoon about every quarter of an hour in all directions. From a spot between Gamsáli and Bampa, which is a mile to the south, looking up at a snow ridge to the south-east and about three miles off is to be seen to all appearance the upper half of the figure of a man, the head and shoulders being distinctly visible. The people state that they believe it to be an idol that had been placed there in olden times; but as no human being can now get up to the spot, it is improbable that their story has any foundation. It is more likely to be a bit of rock jutting above the snow bearing some similitude to the human figure, which it certainly has. Scented violets; iris, blue and purple; yellow, white, and red dog roses; wild currants and gooseberries are to be found all over the valley round Gamsáli.—(GARSTIN.)

Ganái, a halting-place on the Rámganga river, on the route between Dwára in Kumaon and Lohba in Garhwál, is situate at an elevation of 3,206 feet above the level of the sea, in latitude 29°-53′-4″ and longitude 79°-23′-38″ in patti Giwár and parganah Páli of the Kumaon district. There is a travellers' bungalow here, distant 10 miles from Dwárahát, three miles from Rámpur, and 14 miles from Lohba; from Dwárahát the road follows the right bank of the Kothlár-gar to its confluence with the Rámganga at Ganái. This stream flows through a wide cultivated valley having numerous villages. On the right are the Dúnagiri (7,346) and Sukhdevi

peaks, and continued to the west, in the Munpaudevi (6,932) and Godi peaks, to the banks of the Rámganga. To the left and south of the road the range consists of the Dwárakot (5,356), Dalgári (5,922), and Bastira peaks, and the valley is here wider and the slopes less precipitous. The road passes by the villages of Chiteli, where there are quarries of blue slate and iron mines, Bireti, Mehalchaura, Chhání sometimes called Chhání-semal from a *semal* tree of great size, standing near the village and Mahatgáon, to Rámpur. The old road leads to a ford on the Rámganga, which is passable except in the rains. At Ganái there is a bridge. The village is situate at the intersection of the valleys of the Rámganga running from north-west to south-east, and that of two of its tributaries, one running from the north-west (the Khetsár) and the other from the south-east (the Kothlár). The country around is highly cultivated and dotted over with numerous villages. The road is prettier and the hills better wooded than the stages near Almora; about three miles to the north-east is the Tarág Tál, a pretty lake embosomed in mountains. Some two miles from Ganái, are the traditional remains of what is now known as Lakhanpur or Bairát, and which is supposed to have been one[1] of the capitals of the earlier Rájas in Kumaon.

Gangoli, a parganah of the Kumaon district, is in form somewhat of a triangle, with its apex to the south at the junction of the Eastern Rámganga and Sarju. The former river separates it from Síra and Shor, on the east, and the latter divides it from Chaugarkha on the west; on the north, the boundary is formed by a range of hills stretching from Bágeswar, on the west, to Naya Thal on the east, and separating it from Dánpur. The range is marked by numerous peaks over 6,000 feet high, amongst which may be noticed Básuknág, Káli-nág, Beni-nág, and others. The parganah now comprises six pattis—Bel, Bherang, Baráun, Kamsyár, Pungaráon, and Athgáon—each of which is separately noticed. Four of these were created or first recognised in 1842, and Bherang was formed at the recent settlement. The assessment of the land revenue at each settlement (exclusive of mines) was as follows :—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1840.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1,717	1,913	2,011	2,558	3,065	3,298	3,469	3,641	12,944

[1] See Gazetteer XI. 453, 527, 536.

The current assessment falls at Re. 0-10-6 per acre on the whole area, and at Re. 1-9-8 per acre on the cultivation. The total assessable area comprises 19,646 *bísís*, of which 10,081 are culturable and 9,565 are cultivated (3,379 irrigated). In 1822, the area assessed to revenue was only 3,127 *bísís*, whilst 411 were held free of revenue, and 1,169 belonged to deserted villages. In 1824, cultivation reached 4,277 *bísís* and culturable waste, to 3,197 *bísís*. In 1840, the assessable area amounted to 15,933 *bísís*, of which 7,742 were cultivated. In 1821 there were 393 villages paying revenue, and in 1823 the number was 435 (besides 37 *muáfi* and 53 *gúnth* villages), and the deserted sites numbered 359.

In 1840, there were 758 villages held under 381 leases ; giving an average of about Rs. 10-8-0 for each lease and of six rupees for each hamlet. In 1870 there were 495 estates assessed to revenue, comprising 747 villages and only 13 deserted village sites. The population at settlement numbered 10,167 males and 8,853 females : in 1872 there were 12,114 males and 10,628 females, and in 1881 there were 14,185 males and 12,998 females.

The tenures in this parganah are chiefly *bhái-bhaunt* or *bháyachára*. There were 19 thokdárs in 1880 ; but in most cases the dues of office were worth very little ; whilst the duties as purveyors and police on the high road between Almora and Pithoragarh were somewhat onerous. Bel occupies the lower part of the parganah from river to river and from Gangoli Hát southwards. Athgáon and Kamsyár lie to the west, Baráon in the centre, and Pungaráon to the north. In Bel, the villages are scattered and few in number except on the table land around Gangoli Hát ; indeed the greater part of the entire parganah consists of high and steep ranges of hills, which afford scanty room for cultivation, and compared with the area there is little land fit for cultivation left. The land capabilities in Baráon are a little better than in Bel, and perhaps best in Pungaráon, which finds in the Bhotiyas ready purchasers for its surplus produce. In former years, Bel, Bherang, Athgáon, and Kamsyár were covered with an almost impenetrable jungle, the haunt of numerous tigers. Owing to the Gorkhali policy of disarming the inhabitants, they were defenceless and were carried off at midday whilst working in their fields, and tigers were even known to break into houses at night and carry off the inmates.

Writing in 1821, Traill states that within the previous three years 373 persons had been killed by tigers in Gangoli; these, too, were natives of the place, whose names and residences were recorded. In 1840 Batten writes: "In some of the tracts near the rivers, notorious man-eaters are hardly ever absent, and at times the loss of human life is considerable; very few of the inhabitants are shikáris, and the reward of Rs. 10 given for each tiger killed is found an insufficient inducement to create in Gangoli a body of hunters; whilst the poverty and inhospitality of the villagers is such, that though they often apply for aid, they are almost always found unwilling to provide even the commonest supply of provisions for the local sepoys and armed peons occasionally sent to assist them."

The people of Gangoli have always had the reputation of being the most churlish, priest-ridden in Kumaon; and at the time of Mr. Batten's settlement they were in addition wretchedly poor, slaves of the Pants and Upretis, without any independence, and hardly having the spirit to aspire to a better position. Brahmanical influence has of late years very greatly diminished, and the existence of the Beninág tea-plantation has greatly aided in raising the people out of debt through the constant employment and good wages they receive there. Tigers have been exterminated, and the few that venture up the river are now quickly disposed of. Jungle has disappeared to a great extent, and cultivation has much increased; good roads, too, now run through this tract to Pithoragarh and Thal, and altogether it is expected that this parganah will make great progress during the current settlement by a yearly increase of cultivation and wealth. A comparison with the past gives good grounds for this hope. There are iron mines at Bájur and Gwánsikot in Athgáon. The copper mines at Rái have been separately noticed under "Mineralogy." In 1840 they were leased for Rs. 101 and Rs. 25 in 1872: there are also copper mines at Phadyáli, Bujyúrha, and Kutáni in Athgáon. The *gúnth* holdings are numerous, and aggregated 993 *bísís* in 1870: 164 *bísís* were *muáfi* to individuals and 253 *bísís* in plots of less than 10 *bísís* were also held free of revenue, total 1,410 *bísís*. There were 125 water-mills assessed at Rs. 237. Bherang and Bel have one patwári, and each of the other pattis one. There are schools at Chaupata, Beninág, Titauli, Sugor, and Chamtola. The tea of Beninág and the oranges of the Rámganga

valley are favourably known. Every year a large fair takes place at Thal, where the Bhotiyas complete their accounts with the hill-traders and prepare to move northwards. Casual cultivation known as *ijar* or *kála-banjar* is still not uncommon. The temples of Káli at Gangoli Hát, Bhubaneswar with its cave[1] at Beninág and Rámeswar at the confluence of the Sarju and Rámganga are some of the best known in the district. A Rája held his court at Mánkot for eight generations, and founded Gangoli Hát.[2] At Jamankot, a Páli immigrant set up an independent *ráj* for a few days, but was promptly suppressed.

Gangol, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by patti Rangor ; on the east by Sui Bisung ; on the west by Chálsi and Pharka ; and on the south by Sipti. This patti was separated from Sipti-Gangol at the recent settlement. The principal villages are Goshni, Kánikot, Parásaun, and Tyársaun. The assessable area comprises 1,827 *bísis*, of which 622 are culturable and 1,205 are cultivated (146 irrigated). The land tax yielded Rs. 475 in 1815 : Rs. 683 in 1820 : Rs. 988 in 1843, and now stands at Rs. 1,458, which falls on the whole area paying revenue at Re. 0-12-9 per acre and on the cultivation at Re. 1-3-4 per acre. The population at settlement comprised 982 males and 809 females. Two villages were received from Regarubán at the recent settlement. This patti is fairly inhabited for its size, and possesses a good climate. There is still good arable land to spare, capable of affording fair crops of the millet *manduwa*. The patwári usually resides at Marlak: there is a school at Khet-khán.

Gangoli-Hát, a village, resting-place, and traveller's bungalow on the route from Almora to Pithoragarh, distant 34 miles north-east of Almora, 11 miles from Naini, the same from Báns, and about 18 miles from Pithoragarh, in latitude 29°-39′-23″ and longitude 80°-5′-24″, at an elevation of 5,580 feet above the level of the sea. The village itself is called Hát, and is situate in patti Bel of parganah Gangoli. It is reached from Báns by a steep descent to the Rámganga, which is crossed by an iron suspension bridge and leads to an equally steep ascent on the opposite side.

From Báns.

The hills on either side are thickly clothed with pine forest, and present magnificent views of the lower hill scenery in the Himálaya, and though the

[1] Gazetteer XI. 318 [2] *Ibid*, 496, 527, 537, 540, 797.

road is tiring and hot, the scenery well repays the labour. There are only a few hamlets near the road. Close to the bungalow is a temple dedicated to Káli, the priests of which make the usual boast that the ground is ever moist with the blood of kids and buffaloes offered in sacrifice. The temple is, however, more remarkable for the grove of noble *deodárs* within which it stands. Close by, to the south-west are the remains of a few old temples and a masonry well bearing an inscription apparently of some age. From Naini to Hát the road following the Jágesar ridge, which separates the waters of the Alaknandi from the Sarju, soon descends steeply to the latter river passing the village of Harara, which is a little below 4,000 feet. The lowest portion of the valley of the Sarju here is entirely uninhabited. The river is crossed by a suspension bridge at an elevation of only 2,827 feet, and the climate and vegetation are therefore thoroughly tropical in their character. On the lower part of this descent, which faces the north and is very steep, and therefore sheltered from the sun, many showy flowered species of *Gesneraceæ* are abundant. A fine scarlet *Hedychium* may also be found near Harara. In the valley convolvulaceæ, wild gingers, and orchideæ are common, the latter usually rather curious than beautiful. Besides these Madden notes seven species of *Bœhmeria*, the *bijaura* (*Citrus medica*); *kunj* (*Toddalia aculeata*) ; *sún-kanwal* (*Laurus lanceolaria*) ; *kurra* (*Polygonum glabrum*), and many others. A great outburst of green stone occurs here, which has been traced almost right across Kumaon and Garhwál. The Sarju is here a fine clear river flowing in a succession of still, deep pools and sparkling rapids over a bed of boulders. The ascent to Gangoli-Hát is long and steep. The slope up which the road is taken has a southern aspect and is generally abrupt, open and grassy, and thinly clothed with pines. The chestnut, however, is common and is conspicuous in the autumn from its abundant bloom of white flowers ; the fruit is small and worthless. *Lilium wallichianum*, the queen of lilies, is abundant on the open slopes ; it grows from four to six feet high, and its pure white flowers have been measured as much as thirteen inches in length ; and nine inches is common. It flowers in August.

From Naini.

A road here branches off to Munsyári by Loha Thal; and during the hot weather and rains, though somewhat longer than the

ordinary road by Kapkot, has the advantage of being on the whole at a greater elevation, and is therefore cooler and more healthy. Gangoli-Hat to Bána, 10 miles, ascend the Diyári pass (6,910 feet) over a ridge, the highest point of which is called Rái, after the village of that name so well known for its copper mines.[1] The forest on this ridge is pine, and a visit to its summit, which lies about a mile west of the pass, would repay the labour. At the foot of the ascent *Quercus lanata* is common with its striking foliage. The road is easy and, crossing the pass descends to Rái, beyond which the path follows the water-parting ridge between the Sarju and the Rámganga at an elevation varying from 5,000 to 5,500 feet. The highest points of the ridge in this neighbourhood hardly exceed 6,000 feet and the country is open and fairly cultivated and easily accessible. There is nothing striking in the scenery nor in the vegetation which is that common at such altitudes. From Bána to Loha-thal, about eight miles, the road is easy, winding along the hill sides between 5,000 and 5,500 feet, through an open and rather interesting country. Hence to Mohargári, nine miles, the path ascends an open cultivated country to the summit of the Kálinág ridge (7,317 feet). To the north of this ridge the vegetation becomes more luxuriant, the mountains being steeper and the Mohargári valley almost devoid of human habitations or cultivation. After a steep descent reach the Mohargár or stream at an elevation of about 4,000 feet, and follow its northern bank through a semi-tropical vegetation to the encamping-ground which is close by the stream. Hence to Tejambugur (*q.v.*) about six miles.

To Tejam.

Gangotri, in patti and parganah Taknaur of Tíhri, a small temple on the right bank of the Bhágirathi, is situate in north latitude 30°-59′-10″ and east longitude 78°-59′-30″, about ten miles south-east of its source at an elevation of 10,020 feet above the level of the sea. A gunshot below Gangotri the Kedár Ganga, a rapid and considerable stream, debouches into the Bhágirathi at a place called Gaurikund, a place of ablution for pilgrims. The hills here recede a little, and above Gaurikund the bed of the Bhágirathi widens into a small shingly space, in which the river flows rapidly, changing its course as the floods direct it. Just at

[1] Gazetteer X, 279.

the gorge of this space a bridge has been thrown across, and just above the bridge, in a bay formed by a reach of the river in this shingly place, fifteen feet above the stream, is situate the small temple dedicated to the goddess Ganga. This was erected by Amr Singh, Thápa, the chief of the Gorkhâli commanders in Garhwál early in the present century. The temple is erected on the sacred stone where tradition has it Bhágirath used to worship Mahádeo. It is a small building of a square form, for about 12 feet high and rounding in to the top in the manner common to temples in the hills. It is quite plain, coloured white with red mouldings, and surmounted with the usual melon-shaped ornament commonly known as a Turk's cap. From the eastern face of the square which is turned nearly to the sacred source there is a small projection covered with a stone roof, in which is the entrance facing east, and just opposite to this there is a smaller temple of similar shape dedicated to Bhaironji, as the guardian of the shrine. The larger temple contains small statues of Ganga, Bhagirath, and other deities supposed to be connected with the locality. The whole is surrounded by a wall built of unhewn stone and mortar, and the space this contains is paved with flat stones. In this space, too, there is a comfortable but small house for the officiating Brahmans. Without the enclosure there are a few wooden sheds constructed for the accommodation of pilgrims, who also find shelter in caves formed by overhanging stones, of which there are many.

Fraser writes:—"There are several pools, called by the names Brahmakund, Vishnukund, and others of corresponding import. Ablution in these is considered an important part of the ritual to be observed by pilgrims who visit this spot, considered popularly to be the source of the Ganges, as further progress up the stream is generally, though erroneously, regarded as impracticable. Though this ablution, with due donations to the officiating Brahmans, is considered to cleanse from all offences, the number of pilgrims is not considerable in consequence of the great length and ruggedness of the journey, and the difficulty of obtaining subsistence by the way. Flasks and similar vessels are filled at Gangotri with the sacred water of the stream, and being sealed by the officiating Brahman, are conveyed to the plains, where they are highly prized. Gangotri is below the upper limit of forests; *deodârs* growing here, though to no great size, and birch trees thriving remarkably. The mean breadth of the Bhágirathi or Ganges here was ascertained by Hodgson, on the 26th of May, to be forty-three feet, the depth eighteen inches, the current very swift, and over rounded stones. On the second of June following, he conjectured its volume to be doubled, in consequence of the rapid melting of the snow.

Rennell's account of Gangotri would scarcely have been expected from one who usually displays so much information and judgment. "This great body of water (the Ganges) now forces a passage through the ridge of mount Himmaleh, at the distance possibly of 100 miles below the place of its first approach to it, and, sapping its very foundations, rushes through a cavern, and precipitates itself into a vast basin, which it has worn in the rock at the hither foot of the mountains. The Ganges thus appears to incurious spectators to derive its original springs from this chain of mountains, and the mind of superstition has given to the mouth of the cavern the form of the head of a cow.

This idea is also mentioned by the Persian authors and Père Tieffenthaler also notices it; but the Brahman priest in charge met there by Fraser in 1816 ridiculed the idea of the stream proceeding from a rock like a cow's mouth, and pointed out the actual source. Herbert estimates the length of the Bhágirathi from its source near Gangotri to its entrance to the plains at 203 miles. The elevation of the temple above the sea is 10,319 feet. About a kos from Gangotri is a place called Patangani, which is noted as the spot where the five Pandawas remained for twelve years worshipping Mahádeo after his retreat from Lanka to the Himálaya after that they ascended the Swargaruini peak, whence the Ganges flows, and there four of them died and their spirits ascended to heaven. The fifth Yuddhishthira was translated bodily at the same time. Mr. Griffith thus recounts the birth of the Ganges[1]:—

"Thus urged, the sage recounted both
The birth of Ganga and her growth:
The mighty hill with metals stored,
Himálaya, is the mountain's lord;
The father of a lovely pair
Of daughters, fairest of the fair:
Their mother, offspring of the will
Of Meru, everlasting hill,
Mená, Himálaya's darling, graced
With beauty of her dainty waist.
Ganga was elder born: then came
The fair one known by Uma's name,
Then all the gods of heaven, in need
Of Ganga's help their vows to speed,
To great Himálaya came and prayed
The mountain king to yield the maid.
He, not regardless of the weal
Of the three worlds, with holy zeal
His daughter to the Immortals gave,
Ganga whose waters cleanse and save,
Who roams at pleasure, fair and free,
Purging all sinners, to the sea,
The three-pathed Ganga thus obtained
The gods their heavenly homes regained.

[1] Ramayana, I, 171.

Long time the sister Uma passed
In vows austere and rigid fast,
And the king gave the devotee
Immortal Rudra's bride to be;
Matching with that unequalled lord
His Uma through the worlds adored.
So now a glorious station fills
Each daughter of the king of hills:
One honored as the noblest stream,
One mid the goddesses supreme.
Thus Ganga, king Himálaya's child,
The heavenly river undefiled,
Rose bearing with her to the sky
Her waves that bless and purify."

Gau-mukh, or the cow's mouth, is the name given to the glacier cavern from which the head-waters issue on the melting of the ice and snow. This glacier has its origin on the western slopes of the Satopanth group of peaks, the eastern slopes of which are covered by the glaciers above Badrináth in the Mána valley. It also is connected with the glaciers along the northern slopes of the Kedárnáth peak, on the south face of which is the temple of that name, so that the three great places of pilgrimage are all within a few miles of horizontal distance from each other.[1] The name *Gau-mukh* is also given to the prayer-bag[2] which conceals the *mudras* made in the ceremony of the *sandhya*.

Landhaur to Gangotri by old road.

1	Landhaur to Phedi ...	11	Reckoning from the Landhaur Hospital.
2	Bálal	12	Along the Aglar stream.
3	Lalúri	12	Cross Nágtiba range.
4	Thona	10	Reach Ganges river forest bungalow.
5	Dhúnda	12	
6	Bárahát	12	A bridge leads to Kedárnáth forest bungalow one mile further on.
7	Moneri	11	
8	Bhatwári	12	Hill-shoes can be procured here.
9	Tiara or Elga ...	12	
10	Danguli	11	
11	Súkhi or Jalah ...	14	Forest bungalow between 12th and 13th marches. Crossing the Kaparghát by two wire suspension bridges at Maicha.
12	Deráli	10	Cross the Ganges by bridge. Supplies must be procured at Deráli.
13	Bhaironghátí ...	9	The Nilang river here joins the Ganges.
14	Gangotri	9	Temple. Very bad road over ladders, scaffolds, &c.
15	Camp	10	No made path to foot of glacier, which is six miles from Camp.
	Total ...	167	

[1] A name of Siva. [2] See Gazetteer, XI, 874.

Garra or Deoha, a river rising at the southern base of the lower hills in patti Chaugadh of parganah Káli Kumaon, near a peak over seven thousand feet. After a short south-easterly course it runs due west and again south, entering the Bhábar between Chorgaliya and Jaula-Sal. It flows southward through the Bareilly district and Sháhjahánpur, and eventually joins the Western Rámganga on the left bank. It is known as the Nadhaur in the hills; in the Tarái as the Dewa or Deoha, and further south as the Garra.

Garhwál, a district of the Kumaon Division, is bounded on the north by Tibet; on the east by Kumaon; on the south by Bijnor, and on the west by Tihri and Dehra Dún. It lies between north latitude 29°-26′-15″ and 31°-5′-30″, and between east longitude 78°-18′-45″ and 80°-8′-0″, with an area of 5,500 square miles.

Sub-Division.

For administrative purposes this area is divided into eleven parganahs, which are further sub-divided into 86 pattis as follows:—

Parganah.	No.	Patti.	Parganah.	No.	Patti.
1 Bárahsyún ...	1	Banelsyún.	4 Chandkot ...	29	Gorársyún.
	2	Bangarhsyún.		30	Jaintolsyún.
	3	Gagwársyún.		31	Kimgadigár.
	4	Idwálsyún.		32	Maundársyún.
	5	Khátsyún.		33	Mawálsyún.
	6	Kandwálsyún.		34	Pingala-pákha.
	7	Kapholsyún.		35	Ringwársyún.
	8	Manyársyún.	5 Dewalgarh ...	36	Bidolsyún.
	9	Nádalsyún.		37	Bachhansyún.
	10	Paidúlsyún.		38	Chalansyún.
	11	Patwálsyún.		39	Dhanpur.
	12	Ráwatsyún.		40	Ghurdursyún.
	13	Sitonsyún.		41	Kandársyún.
	14	Aswalsyún.		42	Katholsyún.
2 Badhán ...	15	Khansar.	6 Dasoli ...	43	Band.
	16	Kapíri.		44	Dasoli Malli.
	17	Karakot.		45	Dasoli Talli.
	18	Nandák.	7 Nágpur ...	46	Bámsu.
	19	Pindarwár.		47	Kaliphát Malli.
	20	Pindarpár.		48	Kaliphát Talli.
3 Chandpur ...	21	Chandpur Síli.		49	Maikhanda.
	22	Chandpur Taili.		50	Nágpur Malla.
	23	Chcprakot.		51	Nágpur Bichhla.
	24	Chauthán.		52	Nágpur Talla.
	25	Dháijyúli.		53	Urgam.
	26	Lobha.		54	Parkandi.
	27	Ránigadh.	8 Painkhanda ...	55	Painkhanda Malla.
	28	Sirgur.		56	Painkhanda Talla.

Parganah.	No.	Patti.	Parganah.	No.	Patti.
9 Ganga Salán,	57	Dhángu Malla.		72	Meldhár.
	58	Dhángu Talla.		73	Sábali.
	59	Karaundu Walla.		74	Saindhár.
	60	Karaundu Palla.		75	Taláin.
	61	Langúr.	11 Talla Salán...	76	Bhábar.
	62	Udepur Malla.		77	Bijlot Walla.
	63	Udepur Bichhla.		78	Bijlot Talla.
	64	Udepur Talla.		79	Búngi.
	65	Ajmer.		80	Badalpur Malla.
10 Mallá Salán ...	66	Bangársyún.		81	Badalpur Talla.
	67	Dhaundyálsyún.		82	Kaurhiya Walla.
	68	Gujaru.		83	Kaurhiya Palla.
	69	Iriyakot.		84	Painún.
	70	Khátali.		85	Síla Malla.
	71	Kolágár.		86	Síla Talla.

To the north, the water-parting forms the boundary with Hundes. To the east, the boundary is somewhat arbitrarily fixed by an irregular line drawn from the southern peak of Trisúl to the Pindar river about twenty miles from its source, thence in a south-eastern direction along the Badhán to the Rámganga river near Mehalchauri, crossing it, to where it again meets the river in the Pátli Dún. Thence it skirts the southern base of the hills by the Rámnagar and Ganges road to Gorighát on the Ganges. On the west the boundary follows the Ganges river to Deoprayág, thence the Alaknanda to Rudrprayág and after that the Mandákini river to Agastmuni, whence an irregular line above the right bank of that stream to the snowy range to the west of the Kedárnáth temple completes the circuit. The greatest breadth is 55 miles, the least breadth 30 miles, and the mean about 42 miles. The estimated area is 3,520,000 acres or 5,500 square miles. But owing to the difficulty of measuring the snowy wastes the area in acres cannot be correctly given. The natural divisions are mountain ranges and narrow valleys which, as a rule, are little more than ravines. That of Srinagar is the largest in the district, but it is hardly half a mile wide and has an elevation of only 1,500 feet above the level of the sea. To these may be added the narrow strip of waterless forest at the foot of the hills called the Bhábar, about two to three miles in breadth, where it adjoins the plains.

Existing arrangements.

Some centuries back Garhwál was divided into a number of petty chieftainries said to have been fifty-two in number, which were subsequently united

under the Rája of Chandpur, who transferred his residence to Dewalgarh, and about the fifteenth century to Srínagar. Under these Rájas the existing parganahs were established, and no alteration in their number or limits was made by the Gorkhális. The parganahs were subdivided into pattis, some of which, for various reasons, attained to the position of parganahs at different times. One of the earliest lists gives the following:—Ajmer, Udepur, Salán, Síla, Bárahsyún, Dewalgarh, Choprakot, Dhanpur, Chandpur, Badhán, Dasoli, Painkhanda, Kapíri, Khátali, Nágpur, Parkandi, and Lohba, or seventeen in all. In 1815 there were tahsílis[1] at Srínagar and Chandpur and a peshkár at Kotdwára, where there was also a police station, and at Bhúrighát, Bilásni, and Sigoddi, costing together Rs. 740 a month. The Dhángu tahsíl (Kainúr) was formed in 1817 for the Salán parganah instead of a peshkári at Kotdwára and the entire monthly cost (exclusive of the share of the head-quarters' establishment) is set down at Rs. 488. In 1821, tahsíl Chandpur comprised (1) Chandpur, containing pattis Chandpur, Lohba, Dhanpur (and its mines), and Choprakot; (2) Badhán, containing Badhán, Kapíri, and Karakot; and (3) Malla Salán, comprising Sábali, Khátali, Bangársyún, Gujaru, Dhaundyálsyún, Saindhár, and Meldhár. The Dhángu tahsíl[2] contained eleven pattis, Udepur, Ajmir, Dhángu, Síla, Karaundu, Kaurhiya, Langúr, Painún, Bungi, Bijlot, and Badalpur, and was abolished in January, 1822. Five of its pattis were annexed to the Srínagar tahsíl under the name Ganga Salán and six to Chandpur as Talla Salán, reducing the monthly cost of establishment to Rs. 388. Parganah Chaundkot included pattis Iriyakot, Taláin, and Kolagár, and to these were added the cluster of villages from Dewalgarh known as Kotali, and which had been assigned for a long period for the manufacture of powder for the State. In 1830, the tahsíl establishment cost Rs. 125; police Rs. 72 (in Pátli Dún and Chándi); and Kánúngos Rs. 125. In 1834 the Srínagar tahsíl[3] was abolished, and the entire district was placed under one tahsíldár, resident at Kainúr (Kanyúr), the old seat of the Chandpur tahsíli. The tahsíli was subsequently again removed to Srínagar. In 1833, patti Panai was transferred from Chandpur to Dhanpur, but the greatest changes were effected by Mr. J. Beckett

[1] To Government, 26th December, 1815, from 27th January, 1816. [2] To Government, 14th September, 1821, from 23rd January, 1822. [3] To Commissioner, Bareilly, 1st January, 1834, from Government, 21st January, 1834.

at the current settlement, and are fully noticed elsewhere. In 1883, the head-quarters' establishment for revenue duties cost Rs. : Civil (Judicial) Courts, Rs. : Police, Rs. : and Public Works Rs. : total Rs. . The history of the administration of Civil and Criminal Justice will be found under KUMAON (*q.v.*). The head-quarters of the Civil Administration is now at Páori, where the Assistant Commissioner resides. There is now a tahsíldár at Srínagar, a peshkár at Gairsen or Lohba, and police-stations at Srínagar, Kotdwára, Dhároń, and Láldháng.

Physical geography.

The shape of Garhwál on a map is not unlike that of an hour-glass, broad at the north and south and narrowing to about one-half in the middle. The Alaknanda and its tributaries drain the entire district, and form the valleys, which are, as a rule, much narrower and contain less arable land than those of Kumaon. Mr. Batten's description may be quoted here :—"Vast tracts are composed of bare rocks or are covered with forests : in some parts such features are confined to the upper parts of the mountains whose sides and base are adorned with the richest fertility ; whilst in other parts the fairest slopes or the finest valleys are succeeded by continuous miles of river glen where precipices and woods extend to the lowest depths. Sometimes the jungle is above the cultivated parts ; sometimes below. In one place, individual villages or sets of villages are separated from their neighbours by almost impervious forests or impassable crags and rivers ; in another, villages having little barren waste are mutually divided by a small copse or ravine, or by the natural boundary of a stream flowing between their fields ; so various are the features of the country through which the hamlets are interspersed. However notorious one sub-division may be for its plenty and another for its poverty, no opinion in either case can be formed of the natural capabilities of one village by a view of its neighbour in even the smallest sub-division of a tract." The Alaknanda marks the great central line of lowest elevation, receiving rivers on either side which in turn receive minor streams, and these again rills and rivulets until the great dividing ridge is met which forms the watershed between the head waters of the Káli or Sárda on the east and the Ganges system on the west. The entire drainage of Garhwál flows into the Ganges.

With the exception of parganas Bárahsyún and Chaundkot, which are almost entirely bare of arboreal vegetation, the entire district is thickly covered with forest forming in many places an almost impenetrable jungle.

To the north the mountains form a portion of the great Himálayan chain of which the principal peaks in the district are West Trisúl, 23,382 feet above the level of the sea ; East Trisúl, 23,092 feet ; the third peak, 22,342 feet ; Nanda Devi, 25,661 feet ; the Nandakna peaks, 20,772, 20,773, 22,093 feet ; Kamet, 25,373 feet ; Nálikánta, 21,661 feet ; Badrináth, 23,210 feet, and Kedárnáth, 22,790 feet. From the main range to the north-west the slope inclines to the elevated plains of Tibet, and the Vishnuganga river rises gradually from 6,200 feet at its confluence with the Alaknanda to 18,000 feet at its source in the glacier adjoining the Mána pass into Tibet. Between this valley and the upper course of the Alaknanda, here called the Dhauli or 'white river' is a ridge of great height ending on the south in a peak having an elevation of 22,073 feet and in Kamet on the north. The Dhauli valley comes next and leads to the Níti pass into Tibet, which is described in the article *Bhotiya Mahals.* To the south of the main range of hills we find numerous spurs running from it generally in a direction from north-east to south-west and parallel to each other with cross spurs at intervals and occasional ridges of greater elevation, such as Tungnáth or Chandrasila (12,071 feet), Duda-ki-Toli (10,188 feet), and Dhubri (9,862 feet). South of the river Nyár, however, the ranges run more parallel to the plains, and are seldom more than 7,500 feet above the level of the sea. Most of these hills are rugged and densely wooded up to between ten and eleven thousand feet, steep towards the ridges, somewhat flatter about the middle, and end in abrupt slopes towards the valleys. Along the larger rivers, the hills present gradual slopes at the base and end in a succession of narrow terraces or flats, which are all dry and are, as a rule, also cultivated. The soil varies greatly in the different valleys. That of the Alaknanda is somewhat sandy ; of the Pindar, Ramganga, and Nandákini is reddish clay, and that of the Nyár is clay mixed with shingle. The soil in the smaller valleys is usually very rich, being composed of the washings from the hill sides. The strip of Bhábar from Kotdwára to Bhamauri

is separated from the plains by a continuation of the Siwálik range, which is crossed by numerous passes, some of which are practicable for wheeled carriage. The remainder of the southern boundary is wholly open to the plains.

Forests.

The Bhábar is but partially cultivated, and for the most part consists of forests of *sál* (*Shorea robusta*), *sissu* (*Dalbergia sissu*), and bambus. The forests in the hills have been sufficiently noticed elsewhere.[1] Generally, the southern portion of the hills are still covered with primæval forest. The largest tract in the centre of the district is the tiger-haunted forest of Chandpur, which is still some 25 to 30 miles long by 12 to 15 miles broad. Year by year the jungle is encroached on by cultivation, and people are encouraged to settle in it by the grant of land at nominal rates and the bestowal of the proprietary right if they bring it under the plough. Hitherto the scanty population and the presence of wild animals have retarded the progress of reclamation; but these obstacles are gradually being removed, and a comparison of the state of cultivation in 1815 with that now existing shows a marvellous and steady increase in prosperity. Much of the forest land to the south is now held by the Forest Department, and is rigidly conserved for the sake of the timber now yearly becoming more valuable.

Rivers.

As already noticed, the Alaknanda with its tributaries mark the distinguishing physical features of the district, and show the direction of the lines of lowest elevation. This river is one of the sacred streams of India and each of the places where it meets a considerable affluent-called (*Prayága* or confluence) is esteemed holy, and forms a station in the pilgrimage which all devout Hindus make to Himáchal. The first confluence is at Vishnuprayág, where the waters of the Dhauli from the Níti pass unite with the waters of the Saraswati or Vishnuganga from the Mána pass and thence onwards to Deoprayág, the stream is known as the Alaknanda. At Nandprayág the Nandák stream joins the Alaknanda on the left bank, and brings with it the drainage from the Nandákna peaks and the western slopes of

[1] For very valuable contributions throughout this article on the present state of the district my warm obligations are due to Colonel Garstin, who has also examined these pages whilst passing through the press.

Trisúl. At Karnprayág, on the same bank, is received the Pindar, which drains the southern and eastern slopes of the Trisúl group. The Mandákini falls in on the right bank at Rudrprayág and brings with it the surplus waters of the entire tract along the southern slopes of the Badrináth and Kedárnáth peaks. At Deoprayág the Bhágirathi from Gangotri joins the Alaknanda, and henceforward the united stream is known as the Ganges. The Bhágirathi rises in Tíhri from the Gangotri peak, and, though popularly considered the chief branch of the Ganges, is inferior in importance and volume to the Alaknanda. The only other important tributaries are the Nyár and Hiunal streams, which join the Ganges on the left bank below Deoprayág. The only river of any size in Garhwál which does not join the Ganges within the limits of the district is the upper waters of the western Rámganga. This river takes its rise in Lohba, and flowing through Kumaon for a considerable distance, re-enters Garhwál in the Pátli Dún, where it receives the Mandhál, Paláin, and Sona streams on the right bank, and bursting its way through the Siwáliks, reaches the Ganges in the Hardoi district of Oudh. All these rivers, owing to their great velocity and the existence of rocks, boulders, shoals, and rapids are useless for navigation, though several are used for rafting timber. Wherever culturable land occurs near their beds, they are used for irrigation, and are also made available for giving power to mills for grinding corn. The beds of all the rivers consist of hard rock and gravel with a little sand, and little erosion takes place. Diluvion, owing to sudden floods, occasionally takes place; but alluvion in the sense it is used in the plains can never occur. As a rule the banks of all the streams in the hills are abrupt and high. Srínagar, the only place in the district approaching a town, is built on the right bank of the Alaknanda well above the stream, but still before the conquest one-half of the town was swept away by a flood, and again in 1868 and 1880 great loss occurred through a sudden rise in the same river. Rapids and eddies occur in all the rivers at short distances apart. The usual appearance is a succession of short, sharp rapids, sometimes having a considerable fall with a long and deep pool. Occasionally the bed becomes very narrow and runs between gorges with high impassable cliffs on either bank. Such phenomena are most frequent on the Alaknanda and Pindar. None of

the rivers flow through subterannean channels, though the Alaknanda some 25 miles above Joshimath appears to do so owing to rocks having fallen in and completely hidden the water. There are a few small ferries on the Alaknanda, the boat being a canoe formed from a hollowed log. Fords are rare on the rivers rising in the snowy range, but all the others are fordable even in the rainy season, except where there has been a fall of rain sufficient to cause a heavy flood. All the hill streams are liable to floods and occasionally to some of considerable volume. In 1868, water that had been dammed up by a landslip burst the barrier, and, coming down by the Alaknanda, caused very great damage and loss of life. Two large bridges were swept away with some seventy pilgrims who were sleeping on the river bank near Chamoli twenty feet above the ordinary flood level. When such floods happen to flow over any cultivated land they usually, by covering it with rocks and gravel, render it useless for a number of years until the *debris* is cleared away.

Canals. Lakes.

There are at present but two small canals six and a half miles long at work. They are taken from two small streams called the Koh and Málin near Kotdwára for the purpose of irrigating the Bhábar in their neighbourhood. It is not improbable that other small canals may be opened along the Bhábar where water is procurable; but this work is in its infancy in Garhwál, as those above mentioned were only commenced in 1869. They irrigate about 1,300 acres of land. There are no lakes of any importance in Garhwál. The largest is Diuri Tál (*q.v.*) in Kálíphát, which is about 400 yards long by 250 yards wide. It is oval in shape and is mainly interesting from the panoramic view of the snowy range above Kedárnáth which is seen reflected on its surface. There are a few small lakes situate on the tops of some of the high hills, such as Deo Tál near the Mána pass, Gadyár Tál in Painkhanda Talla, and Bhairon Tál in Dasoli Talli.

Hot springs.

There are several hot springs in Garhwál. Those at Gauri Kund on the road to the temple of Kedárnáth are situate above the right bank of the Mandákini river. On the 6th October, at 5 p.m., when the temperature of the air was 64° and that of the river was 52°, the tem-

perature in one of the springs was 74° and in another 128°. The water is collected in an artificial reservoir built for the purpose of bathing, as all pilgrims are required to bathe here before proceeding to Kedárnáth, a procedure full of physical as well as spiritual benefit. There is another spring of a similar description at Badrináth called the Tapt kund. It runs under the temple, and is also collected in a large reservoir for bathing purposes. The temperature was noted at 128° Fahrenheit, when that of the river close by was only 38°. Cold water is let into the reservoir in order to allow of the pilgrims bathing in it. There are four separate hot springs at Tapuban, two about a mile, and two about one-quarter of a mile, from the village of that name, and all close to the Níti road. The two most distant well up into artificial reservoirs and are used as bathing-places, their temperature being 127° and 123° respectively. The other two are springs and are not used for bathing, their temperature being 99° and 109°. The water of the first two is of a dirty colour, and leaves a whitish sediment, but does not seem to have any sulphur in it, while that of the latter two is clear and somewhat aërated though tasteless. The spring of Bhauri lies near the village of Amola in latitude 30°-3′ and longitude 78°-2′. It has a somewhat saline taste and the stones are discolored by a reddish sediment. The elevation of this spring is between 3,500 and 4,000 feet. It rises in a small *sál* forest and has a temperature of 94°. There are also two other springs considered by the natives to be warm. One occurs at Kulsári on the left bank of the Pindar river, and the other on the river Paláin in Badalpur Patti. The water is rather less cold than ordinary hill water, but not even slightly hot.

Climate.

Meteorology and climate have already been noticed[1], and here it is only necessary to state that for six months in the year, that is, during the rainy season and until February, the climate is damp. For the remainder of the year it is dry and bracing. But owing to the natural features of the country any general statements regarding the climate are subject to great variations. Towards the passes into Tibet there are no periodical rains, while in the hottest weather it is cool. In the portions bordering on and to the south of the snowy range it is always cool but more moist, while in the rest of the hills the temperature varies, and in the valleys it is intensely hot and feverish during

[1] Vol. X., 201.

the hot weather and rains and bitterly cold during the nights and mornings, though warm in the day time. Under such circumstances the average readings of the thermometer afford no criterion as to the effect of the temperature. The average rainfall at Páori is about 48·4 inches and at Srinagar about 37·1 inches and for the period 1860-61 to 1870-71 about 40 inches. For subsequent years the statistics of Páori are as follows :—

Year.	*Rainfall.*			Year.	*Rainfall.*		
	1st June to 30th September.	1st October to 31st January.	1st February to 31st May.		1st June to 30th September.	1st October to 31st January.	1st February to 31st May.
1872-73 ...	32·4	·4	8·7	1878-79 ..	26·9	0·5	6·4
1873-74 ...	26·1	3·5	7·6	1879-80 ...	45·1	3·6	11·8
1874-75 ...	41·0	·5	9·5	1880-81 ...	35 8	4 0	9·1
1875-76 ..	32·4	2·2	5·7	1881-82 ...	32·1	2·2	7·6
1876-77 ...	21·8	6·6	16·6	1882-83 ...	40·1	11·9	14·1
1877-78 ..	14·5	6 0	13·4	1883-84 ...	...	...	...

Communications.

The nearest railway station to Srínagar is that of Saháranpur, distant about 100 miles, but the opening of the branch line from Moradabad to Hardwár will place the district in much nearer communication with the railway. The passes into Tibet are sufficiently noticed under the article BHOTIYA MAHÁLS, whilst those to the plains occur at Bilásni, Bhúrighát, Kotdwára, Pálpur, Bábli and Kangra. Besides these there are numerous bye-passes known as *chorgháts* (thieves' passes) leading to individual villages and which are but seldom used by general travellers. The district is well-supplied with hill-roads varying from ten to twelve feet in width, nearly all of which are bridged, and attention is now being given to improving those that exist rather than to making new roads. There are nearly one thousand miles of road in the district kept up by a Government grant and the labour of the people through whose villages they pass, a duty covenanted for and allowed for in their agreements with Government regarding the land-revenue. It was found that thus the burden could be easiest borne and that labour was a fitter form for contribution than a money cess and could be borne much easier by all classes. The patwári here, as in Kumaon, is *ex-officio* the superintendent of repairs, which is all that the people are required

to effect; bridges and expensive works being constructed by the skilled Government establishment entertained for the purpose. The roads in the hills are not metalled, and are made by cutting the hill side to about two-thirds of the width and building up and filling in the outer side. When practicable the whole width is cut, but this cannot always be done, and in many places where the hill side is precipitous the whole has to be built up for a considerable height. Lime is rarely used in such retaining walls as the stone is good and hill-men are very good wall builders. The ordinary cost of a hill-road of from eight to ten feet in breadth is from Rs. 250 to Rs. 400 per mile, but where there is much rock-cutting the cost rises as high as Rs. 800 a mile. These averages include the cost of the erection of small culverts usually crossed by slate flags or wooden sleepers.

Traill on roads.

Traill's remarks on the difficulties of road-making hold good to the present day. He writes:—

"The rapidity of the mountain rivers offers great impediments to communication and intercourse, more particularly during the rainy season when (in the absence of bridges) the trader, his merchandise and cattle can only be crossed over the large rivers by the assistance of the ghát people, who swim supported on dried gourds. The bridges are of four kinds: the first, consists of a single spar thrown across from bank to bank; the second, is formed of successive layers of timbers, the upper gradually projecting beyond the lower from either bank towards each other, in the form of an arch, until the interval in the centre be sufficiently reduced to admit of a single timber being thrown across the upper layers, the ends of the projecting timbers being secured in the stone piers; these bridges, which are called *sangas*, are usually from two to three timbers wide, and have sometimes a railing on each side. The third description of bridges, called the *jhúla*, is constructed of ropes; two sets of cables being stretched across the river, and the ends secured in the banks, the roadway, consisting of slight ladders of wood two feet in breadth, is suspended parallel to the cables by ropes of about three feet in length. By this arrangement, the horizontal cables form a balustrade to support the passenger, while reaching from step to step of the ladders. To make the *jhúla* practicable for goats and sheep, the interstices of the ladders are sometimes closed up with twigs laid close to each other. A construction of this kind necessarily requires a high bank on both sides, and where this evident advantage may be wanting, the deficiency of height is supplied by a wooden gallows, erected on the two banks over which the ends of the cables are passed. The fourth and most simple bridge consists merely of a single cable stretched across the stream, to which is suspended a basket traversing on a wooden ring; the passenger or baggage being placed in this basket, it is drawn across by a man on the opposite side by

means of a rope attached to the bottom. This is termed a *chhánka* (*kshanika*). The two last descriptions of bridge are constructed at a very trifling expense, as the ropes used are made of a silky species of grass (*bábar*) which is produced in abundance in every part of the province. Iron chain bridges, as described in Turner's Tibet, would appear to have been used in this province at a remote period, but no remains of them now exist. A considerable number of bridges (*sangas*) have been erected under the British Government, and many, from the want of durability in the timbers, have had to be renewed after three or four years, so that it has been eventually found advantageous to resort to the plan of iron chain bridges in all cases."

Routes.

The following are the principal roads in the Garhwál district and a few of the principal routes. The procedure to be followed is to indent for coolies at Páori, when an order will be given for the number required, and a peon will be detached to go on ahead and collect from the next patwári the coolies for the next stage and supplies at the resting place. These consist of flour and grain and an occasional fowl, so that it is practically necessary to take all supplies with one. Much inconvenience will be avoided if the traveller himself pays all coolies with his own hand and thus prevents his own followers from levying a percentage, a procedure which would be highly resented in the hills :—

From	To	Length in miles.	Number of marches.	Remarks.
Chatuwa Pípal,	Bhíri ...	21	2	Good road, partially bridged.
Gwáldam ...	Nandprayág ...	42	3½	Road good, bridged throughout. The marches are Katyúr, Baijnáth to Jolabugurh passing Gwáldam 12 miles; Dungari, 12; Ghát, 12; Nandprayág, 12.
Ditto (*viâ* Pindar valley).	Karnprayág ...	35	3	Fair road, crosses Pindar twice, a bridge is wanted.
Lohba ...	Búngídhár ...	13	1	Bridged throughout.
Ditto ...	Kainúr ...	22	2	Bridle-path, little used, which crosses the Dudakitoli range at 10,000 feet.
Pokhri ...	Chamoli ...	15	1	Bridle-path, which is being bridged.
Rámni ...	Gwáldam ...	35	3	Path impassable in the rains for horses.
Páori ...	Deoprayág ...	15	1	Good road, bridged all the way.
Kainúr ...	Rámnagar (to Marchúl a bridge.)	45	4	Bridged as far as the *Pátli Dún*, where it enters forest boundary.
Kainúr ...	Dháron (in Bhábar.)	62	6	

From	To	Length in miles.	Number of marches.	Remarks.
Páori ...	Dhárón ...	67¾	6	Bridged as far as the Pátli Dún, where it enters forest boundary.
Chándpur ...	Ko'dwára ...	84½	7	Bridged all through.
Ukhlet ...	Kálúshahíd ...	42¾	4	Bridged up to forest boundary, good.
Ditto ...	Domaila ...	28½	3	Bridged throughout, good.
Dwárikhál or Langúr.	Gorighát ...	47¼	4	Fair, partially bridged.
Páori ...	Agáspur (and on to Almora).	51¼	4	Bridged throughout, bungalows at Jholi and Kunjholi.
Ditto ...	Chatuwa Pípal...	49	4	Fair road along a high ridge.
Ditto ...	Byásghát ...	27	2	Bridle path.

Routes from Srínagar and Páori showing the stages along postal line and pilgrim road.

a.—From Srinagar to Hardwár as far as the Garhwál boundary.

Stage.	Distance.	Remarks.
1. Sítakoti ...	11	No Baniya.
2. Byásghát...	14	Baniya at Deoprayág passed *en-route*.
3. Chándpur ki mánda.	10½	No Baniya.
4. Bairaguna,	12	Ditto.
5. Lachhman Jhúla.	9	Ditto. Road runs along and above the left bank of the Alaknanda and Ganges.

b.—Srinagar to Kedárnath or pilgrim road.

Stage.	Distance.	Remarks.
1. Sirobugr ...	12	Baniyá's shop.
2. Panár (Rudrprayág.)	7	Ditto.
3. Agastmuni.	12	Ditto.
4. Guptkáshi,	14	Ditto.
5. Phára ...	8	No Baniya.
6. Jhilmilpatan.	10	Ditto.
7. Kedárnáth,	10	No Baniya. This is a fair road except the last march.

c.—Guptkáshi to Chamoli.

Stage.	Distance.	Remarks.
1. Gwáliyabugr.	9	No Baniya.
2. Chopta (hence Túngnáth).	11	Baniya only from May to October.
3. Mandal ...	12	Ditto.
4. Chamoli, (Gopeswar).	11	Baniya's shop. The road is good and in good repair.

d.—Srinagar to Níti.

Stage.	Distance.	Remarks.
1. Sirabugr ...	12	Baniya's shop.
2. Punár ..	7	Ditto.
3. Chatúwa Pipal.	15	Ditto.
4. Nandprayág.	12½	Ditto.
5. Chamoli ...	7	Ditto.
6. Pipal Koti,	8	Ditto.
7. Hilang ..	11	Ditto.
8. Joshimath,	7	Ditto and bungalow. Hence by Badrináth to Mána is four marches: Pándukeswar, 9 miles; Badrináth, 9 miles, and Mána two beyond.

d.—Srinagar to Niti—(*concld.*)

Stage.	Distance.	Remarks.
8. Tapuban,	7	No Baniya.
9. Suráin Thota.	10	Ditto.
10. Jhelam ...	9	Ditto.
11. Malári ...	8	Ditto.
12. Gamsáli...	9	Ditto.
13. Níti ...	4	Ditto.

There are no long or very steep ascents along this road, which is rideable almost the whole way. Above Joshimath villages are far apart, and if a traveller does not make the regular marches, he must take all supplies with him.

e—Srinagar to Kotdwára.

Stage.	Distance.	Remarks.
1. Páori ...	7½	Baniya.
2. Naithána...	15	Ditto, and bungalow.
3. Thingábánj	9	Baniya.
4. Dárámandi,	7½	Ditto and bungalow: 3 and 4 can be made in one march.
5. Kotdwárá,	13	Bazar and bungalow.

f—Ganái to Joshimath.

Stage.	Distance.	Remarks.
1. Lohba ...	15	Bungalow and Baniya.
2. Adbadri ...	12	Baniya's shop.
3. Karnprayág.	10	Ditto.
4. Nandprayág.	9	Ditto; hence as in Ganges valley route *d*.
or 1. Lohba ...	15	
2. Naráyanbugr.	12	Baniya's shop and small house.
3. Bánjbugr...	13	Baniya.
4. Nandprayág.	14	Ditto; hence as route *d*.
or from Bánjbugr to		

f.—Ganai to Joshimath—(*concld.*)

Stage.	Distance.	Remarks.
4. Rámni ...	14	Baniya's shop.
5. Kaliyághát or Pána.	14	Ditto.
6. Khulára ...	15	No Baniya. Crossing Kuanli pass, 15,000 feet.
7. Joshimath,	10	Bungalow and Baniya.
8. Tapuban ...	8	No Baniya; thence see route *d*.

g.—Almora to Masuri.

Stage.	Distance.	Remarks.
1. Bhainskhet.	13½	Bungalow.
2. Dwárahát,	12½	Ditto.
3. Ganái ...	9	Ditto.
4. Deghát ..	15	No bungalow.
5. Búngídhár.	8	Bungalow (D).
6. Kainúr ...	12½	Ditto.
7. Chhiphalghát.	16	Ditto (D).
8. Páori ..	13½	No bungalow.
9. Srínagar,	7½	Bungalow (D).
10. Takuli ...	13	No bungalow.
11. Pan ..	9½	Small house.
12. Tihrí ..	11½	Bungalow.
13. Kauriyágala.	12	No bungalow.
14. Dhanaulti,	13	Ditto.
15. Masúri ...	16	Ditto.

The bungalows along this road are furnished but have no servants except a chaukídár. There is a Baniya's shop at each encamping-ground in British territory, which ends at Srínagar. Supplies can be had in Native Garhwál by sending notice ahead to the Rája's agents. It is usual to break the march from Dhanaulti into two.

Customs, &c.

The products of the district, animal, vegetable and mineral, have been noticed in the previous volumes. There remains the general account of the people themselves and the fiscal, criminal and civil administration. There has been no change in the normal state of the population of the district of late years. It is now as it has always been essentially agricultural, and there is nothing to attract the mass of the people from their hereditary pursuits beyond the demand for unskilled

labour on the public works and coolies for the sanitaria. Even to the present day the Garhwáli bears in his character and appearance the stamp of one who has passed through great trials, and in judging of his conduct and condition we must not forget the horrors of the Gorkháli rule. The following account, taken from a journey made by Captain Raper whilst Garhwál was still under the Gorkhális, will give some account of what the people appeared like, to an intelligent observer :—

Raper.

"The inhabitants of Garhwál differ much in their appearance, dress and language from the people of Kumaon. Although not large in stature, they appear more active and capable of greater exertions. This may probably proceed from their mode of life, the greater part of them earning their subsistence by carrying burdens up and down the passes and by attending the pilgrims to the holy places. The mode of carrying loads in this part of the country differs from that practised in Kumaon. The Garhwális support the load on the back by means of slings, through which they pass their arms, while the Kumaonis follow the method of the coolies in the lowlands, placing the burden on the head or supporting it by a bandage round the forehead. This difference in the mode of travelling is strongly characteristic of the nature of the two countries; for, in the perpendicular and rugged paths of Garhwál, the methods adopted in Kumaon would be impracticable. The Garhwális appear, however, not to possess more energy or spirit than their neighbours; for, although they smart most severely under the Gorkháli lash, they have not once made an attempt to regain their liberty. They are kept in a state of the most servile subjection, and hundreds of them are annually seized and sold by their tyrannical rulers. The country is in consequence daily decreasing in population, and many large villages, which were in a flourishing state during the time of the Rájas are now totally deserted. The rod of iron which has been held over them since the conquest has probably altered the character of the people, and perverted those qualities which under a less despotic Government might have been exhibited under a more amiable form. At the present day (judging from those who accompanied us) they have little but their physical properties to recommend them. They are practised in carrying very heavy loads, are capable of undergoing great fatigue, and will travel the whole day without subsistence; but *their dispositions* appear to be sullen and litigious, constantly showing itself in little bickerings, both in words and actions. Frequent instances occur in which they refuse to take up their load, because a small brass pot or some article of no greater weight was added to the burden. They are faithful, however, to the trust reposed in them, and it rarely happens that any articles committed to their charge are pilfered or purloined."

Another traveller writes thus of the people of Western Garhwál :—

"Their dress consists of a jacket or dress of blanket, tied round the waist and open down the right breast, tight in the body and arms, but formed with short skirts, all round, very ample, and gathered in folds. Around their waist they wear a girdle, either of woollen stuff, or of rope formed of goat's hair, neatly plaited. They wear drawers or trowsers very loose to the calf of the leg, but tighter and falling in numerous creases below it to the heel. A piece of blanket stuff, somewhat lighter than the rest, is worn round the shoulders like the Scotch plaid, as rain or sun may require to keep the body dry, or to protect the head from heat. On their head they wear a black cap of hair and wool fitted to the shape, and ending in a small point. The wool from which they manufacture these cloths is of extreme coarseness, very far inferior to that in use to the westward, which is sometimes woven into blankets of considerable beauty and fineness. There are only two colours in use, *viz.*, a dark brown and a dirty gray. The former is most affected by the men of superior rank or means. The dress of the women in no respect varies from that of the men, except that sometimes their heads are covered with a blue or checked handkerchief; and they wear beads of glass or pewter in as great profusion as they can obtain, and bangles of the same metal, of great size, round their arms and ankles."

Dress, &c.

Of the Bhotiyas he remarks:—

"They have stout well-built figures, their complexions are frequently very fair, though much sunburnt; their eyes often blue; their hair and beards curled, and of a light or red colour. They seem admirably calculated to form a body of soldiers fit to act in this hilly region. Occasionally traces may be observed of the Mongolian features: the small eye, high check bone, and meagre mustachios, but they were not sufficiently prevalent to authorise the supposition of any considerable intercourse or intermixture."

"The Gorkhalis have ruled in Garhwál for nearly twelve years, previously to which a severe contest had been kept up, which drained the country of men and money. They appear, in their subsequent conduct to this unfortunate province, to have borne in mind the trouble it cost them to win it, and acted as if determined to revenge it. Its old families were destroyed; all those persons of rank and importance who were taken were murdered or banished; its villages burnt and desolated, and great numbers of its inhabitants sold as slaves. The remaining part were oppressed by heavy taxes, and many voluntary banishments and emigrations took place to avoid a tyranny they could not withstand. Thus, throughout great part of Garhwál, the traveller sees only the ruins of villages, and the traces of former cultivation, now abandoned. The inhabitants that remain are, in all probability, the lowest and most ignorant; and, it may fairly be presumed, have sunk lower in exertion and mind from the oppression they have groaned under."

Houses.

Their houses are narrow and often present a barrack-like appearance, with a frontage perhaps of 100 feet or more. The houses in villages are usually two-storied, the lower story being appropriated to cattle.

The back of the house is entirely shut up, the front of the upper story has frequently an enclosed verandah, three or four feet broad, extending the length of the house. The road through a village has usually a stone causeway about two feet broad and three to four feet high running through the centre of the street. From this, small, raised paths lead to the upper apartments of the houses forming with the central parapet enclosures for cattle. The dung heap always forms a prominent object, and the villages are commonly buried in dense crops of gigantic hemp, while the houses are covered with a profusion of scandent vegetables, such as cucumbers, melons, &c. The inside of the houses are on a par with the exterior, the rooms being low, dark, and confined: to this utter disregard of sanitation, the fevers prevalent in the hot weather may be assigned.

Temples.

The usual style of temple architecture is a cube surmounted by a cone crowned with a large round stone not unlike a Turk's cap and sometimes a melon shaped ornament on the top of this, and often in addition a slight square projecting canopy of wood with a roof of slate or copper sheets surmounted by a copper weather-cock ornament called a *kalas*. Some of the larger temples have a large square room built on in front of them for assemblies, giving something of a church and spire appearance to the whole. The *baulís* or covered fountains are not remarkable for either size or beauty, and consist for the most part of covered reservoirs merely. A few are however to be met with erected by former Rájas which exhibit some architectural ornament, being surrounded by light verandahs, supported by pillars, and having their interior decorated with sculpture. The erection of *baulís* being considered a meritorious work, numerous buildings of this description are to be found in the neighbourhood of all villages and along roads of particular resort.

Wells.

Forts.

The only buildings remaining to be noticed are the forts, which, from the state of internal Government under the ancient Rájas, were extremely numerous, but the greater number are now in mere ruins. They were usually built of large blocks of hewn stones, neatly fitted to each other, with loop holes in the walls for matchlocks or small *jinjals*, and were always situated on the peak of some mountain, from which

circumstance, no doubt, they derived their name of *kalanga*. The choice of their position depended on the difficulties of approach, the steepness of the sides of the mountains, and the proximity of water. The mountain, towards the summit, was rendered as perpendicular as possible by scarping, and where the ridge approaching the peak admitted, a trench was dug across, which was passable only by means of a removable bridge. The remains of forts still exist at Gujaru, Kath-ki-nau, Gágar, Kálimath, Naithána, and Lohba, &c.

Polygamy.

Of the social customs of the people of Garhwál the most common and demoralising is polygamy. Every man who can afford it keeps two or more wives, and the result is that a great deal of immorality exists amongst the women. The custom probably arose from the great difficulty there was in cultivating the large amount of waste land available. Wives were procured to help in field-work and were looked on as beasts of burden; indeed up to the present day they are treated as such, and on them falls the greater portion of the agricultural work, consequently many desert their husbands, whilst yearly a number commit suicide. Children are contracted at an early age and marriages are very expensive, owing to the sum which is paid for the bride. The amount varies from twenty-five to a thousand rupees, according to the rank and property of the parties; and from this amount are defrayed the expenses of the marriage ceremonies and of the bride's portion. In equal marriages amongst the higher classes of landholders the disbursements usually exceed the sum received from the bridegroom. In the case of second and subsequent engagements entered into by persons of this description the new bride is received on terms of inferiority to the first wife and the expenditure is less in proportion to the sum received for her. The contract is entirely one of purchase and sale, conferring on the purchaser a disposable property in the women bought, a right that was recognized under the former Governments, when a tax was levied on the sale of wives and widows. When the means of the suitor are insufficient to satisfy the demands of the parents, an equivalent is sometimes accepted in the personal services of the former for a given term of years, on the conclusion of which he may take away his wife. Widows are sometimes remarried; but it is a civil contract, made before the patwári, and is not held to be

very binding. Most widows take up their residence with other men as mistresses but this is not viewed as disgraceful, and illegitimate children have by custom obtained in almost every family equal rights with legitimate ones. A very few families of the highest caste are an exception to the rule.

Polyandry.

Polyandry does not exist in Kumaon or British Garhwál; but in Western Tihri and Jaunsár Báwar (*q.v.*). "when the eldest brother marries, the woman is equally the wife of his younger brother, though the children are called the children of the eldest brother.[1] When much difference exists in the ages of the brothers of a family, as, for instance, when there are six brothers, the elder may be grown up while the younger are but children, the three elder then marry a wife, and when the young ones come of age they marry another, but the two wives are considered equally the wives of all six. It is remarkable that wherever polyandry exists there is a striking discrepancy in the proportions of the sexes amongst young children as well as amongst adults. Thus in a village where there were upwards of four hundred boys there were only one hundred and twenty girls, yet the temptation to female infanticide, owing to expensive marriages and extravagant dowers which exist amongst the Rájputs of the plains, are not found in the hills where the marriages are comparatively inexpensive, and where the wife, instead of bringing a large dowry, is usually purchased for a considerable sum from her parents. In the Garhwál hills, moreover, where polygamy is prevalent, there is a surplus of female children."

Ordeal.

Amongst other customs, mention may be made of the practice of deciding quarrels and disputes regarding land by an oath. This has several forms. It may be on a son's head, but this is very uncommon, or on a clod of the land in dispute, or by one side cutting in two a piece of bambu placed on the disputed land by the opposite party. But the most common custom is for the form of oath to be taken to be written on a piece of paper called *banda*, which one party leaves in the temple where he worships and which the opposite side takes up. These oaths are considered most binding, so much so that a dispute settled in this manner is hardly ever heard of again. The parties,

[1] Dunlop: Hunting in the Himalaya, 181.

however, so deciding are usually ever after out of caste as regards each other. Besides Hinduism no other religion has any firm footing in Garhwál. Enough has been written regarding religion in these hills, and the list of temples and deities worshipped can be consulted in the previous volume. There are a few Sikhs, Musalmáns and Jainas, but their numbers are very small and at the same time they are so scattered as to have no influence, local or other, whatsoever. There is a Christian Mission at Chapra, one mile from Páori, but it is in its infancy and has made but few converts, its efforts being chiefly directed to education at present.

Floods, blights, and famines.

The hills are never subject to disastrous floods, the drainage channels being sufficient to carry away all excessive moisture. Here and there in the rains damage is sometimes done to small portions of land, but it is never serious. Blights and drought occasionally occur, but these never affect the whole district at once. Blight generally attacks the crops in the low villages and shrivels up the grain, rendering it light though rarely unfit for human food. Droughts also occasionally occur, but as there are high ranges of hills throughout the district which attract the clouds and bring them to the villages in their vicinity, the drought is never general, although it may extend to so large a portion of the district as to render its effects felt all over it. The last great drought was in 1867, when the spring crops failed in all the lower and most fertile half of the district. Government advanced Rs. 10,000 and grain was purchased in the Bhábar and carried up by the people themselves to certain centres, where it was sold. There was no great scarcity of money at the time, so that the majority of purchasers paid ready money, a few giving labour in exchange for food. This famine was only temporary as the autumn crops of the same year were excellent. In the great famine years 1868-70 the district suffered very little, and was in the end a gainer, for measures were taken to prevent the export of grain, whilst the ingress of pilgrims was forbidden, and as the crop of 1869 turned out better than was expected, when export was permitted in the cold weather of 1869-70 the people sold grain in large quantities in the Bijnor district at very high rates. This last famine also acted as an incentive to them to increase cultivation.

It not unfrequently happens that the crops are damaged by an excessive fall of rain which rots the wheat, and, if, in the rains, prevents the ears of rice and millet filling. In 1872, the people suffered somewhat from this cause. Want of carriage is the great difficulty in relieving famines in the hills, for they can only draw their supplies from the Bhábar and adjacent districts; and to reach these places a belt of malarious and very hot jungle has to be passed: the consequence is that should famine arise towards the end of the hot season or in the rains it is almost impossible to import the necessary quantity of grain, for the roads from the centre of this district to the Bhábar are not everywhere passable for baggage animals, and free cooly labour is very hard to procure, so that the only other means is by forced labour, and it is very hard to send men against their will to what they consider certain death in the Bhábar. Until broad roads, easily passable for baggage animals, are made, this difficulty must continue to exist. It is hard to lay down a rule as to what prices show that famine prevails, for there are no large towns or marts, and owing to the nature of the country grain may be cheap in one part, while scarcity prevails in another; but when wheat is selling at eight sers and *manduwa* at ten to twelve sers per rupee, in any one part, we may feel sure that famine prevails there. A great deal, however, depends on the time of year. If scarcity prevails in the cold season, there is not much cause for anxiety, as the people can then earn sufficient to support themselves, and can also import from the several marts along the foot of the hills, unless famine also prevails in the neighbouring plain districts; but should it continue into, or break out in the hot season, it becomes, as before stated, a very difficult matter, and it can only be treated by making all possible arrangements to import a sufficiency of grain before the rains set in. One great safeguard against famines is the cultivation that has been started by the Commissioner of Kumaon in the Kumaon Bhábar, as it is worked by irrigation, the crop can never fail; while it is more accessible to hill men, who themselves are the principal cultivators. Steps have been taken for having similar cultivation wherever water is available in the Garhwál Bhábar; but the water-supply is poor, and it can never be carried out to the extent it has reached in Kumaon: still even small patches here and there will be a great

help in times of scarcity, as the soil is very rich and yields a large return. There are, as already stated, but six and-a-half miles of canal in Garhwál, but the people make use of the large water supply available by turning small channels from the rivers and streams to every place to which their limited means of levelling a cutting will allow them. A great deal more can still be done in this manner, and where practicable, they are being assisted by being given the services of a land leveller. Great care is requisite that channels be not taken from points where a stream can force its way along them, as irremediable damage has in some instances occurred by a sudden flood forcing its way along a channel and destroying almost all the land irrigated by it. The effects of this kind of irrigation on the climate and habits of the people is not very perceptible, as it is usually employed in low, damp villages, which are naturally unhealthy and malarious; but as it is used mainly for rice cultivation, it must increase the healthiness of the climate, and though the natural drainage of the country does lessen its ill effects, they are plainly visible in the appearance of the inhabitants of villages where irrigation abounds.

Tea.

The only industry carried on under European superintendence is the tea planting, some account of which has already been given.[1] In 1842 the Chinese labourers[2] under Mr. Blinkworth produced the first 6½ pounds of tea "called by them pouchong, and made from the coarser leaves," and Dr. Falconer was asked to inspect the gardens which were in a flourishing state. Since then many lákhs have been expended by private individuals on tea estates. In Garhwál alone they employ about 400 permanent and 600 short service labourers, the latter being employed during the picking season. The annual expenditure on these estates amounts to Rs. 38,000. Formerly it was very much larger; but the planters have learned to economise labour, and some estates hence had to reduce their expenditure, for few show a profit balance. The trade with Central Asia, which at one time gave great hopes of proving remunerative, has been practically closed by the action of our Russian friends in putting a prohibitive duty on all articles imported from India. The planters also complain that the reduction in duty on Chinese teas has also affected them injuriously.

[1] Gazetteer, X. [2] To Government, 3rd August, 1842.

Interest.

There are no large banking establishments in the district. The richest money-lender does not own Rs. 15,000, and the average wealth of that class does not exceed five to seven hundred rupees. The people never lend amongst themselves largely without taking bonds or charging interest. The Bhotiyas are the largest borrowers, as they are very reckless and improvident, and from their being for the most part uneducated, they form an easy prey to the professional usurer. The ordinary rate of interest is 25 per cent.; but in addition thereto a certain sum, usually five per cent. of the money, is deducted at the time of lending it; this is called *Ghant Kholái*, or fee for 'loosening the purse-strings,' so that in reality the rate of interest is much higher than that nominally taken, a proceeding not unknown in Europe. Pawning is hardly known and not much practised. Mortgages of moveable property are infrequent, and the same rate of interest is taken as for money. Mortgages of immoveable property are common. They are of two descriptions, one where possession of the property is given to the mortgagee and no interest is charged, the other where the land is merely security for the debt, and interest is charged at the usual rates. Land is hardly ever purchased as an investment, but merely to satisfy the craving that all hill-men have to become proprietors. Traill thus describes the modes of transfer prevailing in 1823:—

"The modes of private transfer are, first, by absolute sale, called *dhali bholi*, in which the purchaser becomes vested with the same rights, and under the same obligations, as the vendor. In the second mode, termed *mát*, the purchaser receives the land rent-free, the vendor making himself responsible for the annual amount of its assessment during his life, and on his death, the purchaser becomes answerable for the demand. There was another species of *mát*, in which the sale was not absolute, right of redemption being reserved to the mortgagor and his heirs, on payment of the amount advanced, but still this took place, the latter continued to pay the revenue. When no heir of the mortgagor remained forthcoming, as in the former case, the rent fell on the mortgagee. The fourth form was that of simple mortgage or *bhandak*, in which right of redemption was sometimes expressly barred, after the expiration of a given term of years; most commonly it was reserved indefinitely. The landed proprietors, however, ever evince the most tenacious attachment to their estates, whatever be their extent, and never voluntarily alienate them, except under circumstances of extreme necessity. This, joined to the repeated family partitions arising under the Hindu law of inheritance, has reduced landed property throughout the country to the most minute state of sub-division."

Coin is accumulating, but not so much from trade as from carrying and supplying the wants of the thousands of pilgrims who come yearly to visit the shrines of Badrináth and Kedárnáth. The tea-planters, too, have spent large sums of money in cultivation; a great portion of the money so received is expended in purchasing wives and building better houses. Some is turned into ornaments, and but very little is expended in improving the land except by purchasing cattle, the number of which, notwithstanding disease, is yearly increasing.

Food.

Taking them as a whole, the people are very frugal in their habits. *Manduwa* (*Eleusine coracana*) and *mandira* or *jhangora* (*Oplismenus frumentaceus*) form the staple food of the lower classes in the hills, varied occasionally with rice. The better classes use wheat, rice, and the various species of *dál*, with vegetables and *gur*, a preparation of molasses. With but few exceptions all classes readily partake of animal food except that forbidden by religion and the flesh of carnivorous animals. Goats, hill sheep, and venison are eaten. A prejudice exists against the plains sheep, its long tail rendering it in the eyes of the hill-men a species of dog. Milk is an universal article of diet, and tea is gradually making its way. Tobacco is used by almost all classes, but by some only in secret. The use of spirits is supposed to be confined to the Doms, but most classes take it medicinally with much advantage. Vegetables of all kinds wild and cultivated are eaten, and hill-men consider most herbs and roots to be edible, a belief which is sometimes attended with fatal results. In ordinary seasons the daily food costs as follows:—Lowest classes half a ser of *manduwa*, one-third of an anna; half a ser of *kauni* or *jhangora*, the same; vegetables, *dál*, salt, oil, wood, seven pies or a total of 1¼ anna. Petty traders and the better class of agriculturists substitute red wheat and inferior rice of the same quantity at a cost of about two annas, while the better class of traders and well-to-do persons add clarified butter and milk, which cost 3¼ annas a day. Officials and the higher classes use the flour of white wheat and good rice. Wages have increased more than 25 per cent. in the last 20 years. In 1850 coolies received Rs. 3½ to Rs. 4 against Rs. 4 to Rs. 5 now; smiths now receive Rs. 10 to Rs. 14, in 1850 Rs. 6 to Rs 8; masons and carpenters now Rs. 8

Wages.

to Rs. 12, in 1850, Rs. 6 to Rs. 8. Agricultural day labourers receive as before half a ser of rice and their food. In the Bhábar for cutting crops the rule is that the reaper receives one head load or 25 to 30 sers of grain for each twenty head-loads cut. A cultivating contract is sometimes made by which the owner supplies the cattle and half the seed, and receives in return two-thirds of the produce.

The following extracts from Colonel Fisher's report in 1883 will close this portion of our subject:—

"If by wealth is meant the possession of cash or other personal property convertible into cash, then the Garhwáli cultivator is the poorest of the poor; but, on the other hand, his land provides his food and hempen clothing, his sheep the wool for his blanket. Salt he can always procure in exchange for surplus grain. Consequently money has but a limited value in a country innocent of trade on any considerable scale. Their houses even are constructed by mutual help. Money will procure a wife, pay revenue or rent, and purchase plough bullocks, but beyond the above, the cultivator has no pecuniary wants or aspirations at present; what he may have when "primary education" has done its work is another matter. The great want of the district is external trade, and without capital it is not possible to start it. In the meanwhile, communications are much improved, and the approaching railway through Bijnor the district and its dealings with the Forest Department may create a labour market and a trade in the not far distant future. The trade in borax and salt is confined to the people of the northern parganahs. There have been no special measures adopted to improve backward tracts beyond the small experiment in the Garhwál Bhábar. In this district the pressure of population on over-crowded areas works in an automatic fashion. In parts of the country where this pressure is severe the landless classes, or those who have become almost landless from the sub-division of ancestral property, either apply for waste plots averaging from 10 to 25 acres on "nayabad" leases, or migrate to villages possessing waste land fit for the plough and become tenants with occupancy rights (*khayakars*) or tenants-at-will (*sirthans*). In other parts of Garhwál those who have acquired money in Government service or other employment apply for waste plots and invite tenants on favourable terms to bring the land under cultivation, and thus local pressure relieves itself without any special official interference."

Implements.

Great labour and considerable skill are shown in the mode of agriculture practised in the hills. The common plough in Kumaon is of very simple construction. It consists of an upright post to the lower part of which is attached a flat, pointed piece of wood at an angle slightly inclined to the earth. At the point of this flat piece an iron spike is inserted, and thus the two together represent the coulter, share and mould-board of the English plough. From the middle of the upright post, a pole extends forward to which the oxen are attached

by a yoke. A small handle at the top of the upright post enables the ploughman to guide the plough in the correct course, whilst the oxen are guided by his voice. This primitive instrument penetrates but a few inches into the soil, but appears to produce fair results. After ploughing the clods of earth (*dél*) in the furrows are broken by a long and heavy wooden mallet called *delaya*, and after sowing the furrows are closed by an oblong flat piece of wood with a long handle, called a *siyára*. The *danyála* is a large wooden rake or harrow drawn by oxen, and *jhekra* is a branch of a tree used to harrow fields sown with *manduwa* The *kutala* is an iron hook with a wooden handle and the *dátula* is a sickle. The *dabliyáta* is a club used for threshing *mandwa* ; a wooden box used for storing grain is called *bhakár*, a hand-mill for grinding grain is *chaki*, and a water-mill is *pan-chaki* or *gharát* in Garhwál. The plough is drawn by a pair of small bullocks, and the soil is usually turned two or three times, after which the harrow is drawn over it and it is pulverised. Manure is used as largely as it is procurable, and is of two kinds ; that of animals mixed with leaves, and that procured from the ashes of burned jungle. Common rice and *sáthi* rice, the common millets and *manduwa* are always harrowed once when the plants have attained three to four inches in height. The spring crops are cleaned once, but the autumn crops, notably rice, have to be weeded frequently. When the very steep nature of the country is considered, it is wonderful how the people have been able to terrace it in the way that they have, seeing that in places the fields formed are not three yards wide. Irrigation, too, is practised with some ease by means of aqueducts or of small streams which are either diverted from large streams, or are a collection of small springs. In places where precipitous rocks occur, troughs of wood are made use of, and where the soil is too loose, walls of stone are built, having a channel at the top made watertight by a lining of mud. Colonel Fisher writes in 1883 :—

"Irrigation is, since the lessons taught by the scarcity of 1877-78, slowly but surely progressing in all localities where it is found practicable or remunerative. The villages at high elevations adhere to the opinion that water from cold and shaded ravines is not beneficial to the crops at large, often chills the ground too much, and does more harm than good, and in seasons of extreme drought the water-supply itself fails, and thus all outlay on such projects does not advance with the rapidity a superficial observer would expect. The classification of land, too, at last settlement into "wet," "1st quality dry," and "2nd

quality dry" has made the suspicious hill-man a little shy of the not now very remote period at which the settlement officers will be noting all additional "*será.*" Perhaps after 1893, when the present settlement expires, irrigation may advance more rapidly. In Garhwál more or less rain comes every year and "protected" and "unprotected" areas fare much alike, the scarcity in one part of the country being made up by the abundance in another. The cattle in Garhwál have been during the past year, as compared with Kumaon, free from serious cattle-disease. Foot-rot often does mischief, and I attribute the prevalence of this disease largely to the practice the people here have of tethering their cattle in the open fields with the object of manuring the ground; the animals thus tethered often stand for hours in wet mud and suffer from fever in the feet."

There are immense pasture lands both in the hills, Bhábar and Taráí. In the former the tracts towards the snowy range have the reputation of bearing most luxuriant and nutritive crops of grass. Immense flocks of goats and sheep are kept there during the rains. In the Dúns and Bhábar at the foot of the hills the greater portion under Garhwál is preserved by the Forest Department and grazing is prohibited: in the eastern Bhábar grazing fees are levied, which amount to a considerable sum. In the Taráí immense tracts are occupied by little except pasture lands.

Rent.

Batái, or division[1] of produce, writes Mr. Traill, takes place commonly in the newly-cultivated villages, or with the newly-settled cultivators in the old villages; where from the uncertainty of produce the cultivator is unwilling to engage for a specific sum. In these cases, the rate of *batái* is previously fixed, either by written or verbal undertaking, and the landholder has usually too much interest at stake to be the first to infringe the agreement. The system of *kankut*, or as it is here termed *kut*, exists in lands held in tenure of *thát* during the government of former Rájas; in these grants the rate of cess demandable on the gross appraisement is sometimes mentioned, and where omitted it is easily ascertained, from long prescription and established usage, to the present time. From a consideration of the above circumstances, I am led to conceive that the rights of the cultivators are already fully secured in this province; and that their interests cannot now be endangered so long as it be an established maxim recognised by the Civil Court, that the landholder can demand no more from them than the actual proportional revenue due to Government.

[1] To Board, 15th February, 1820.

The most general mode, however, is by *nagdi* or money rents; indeed in the old-established villages the office of landholder is, as regards the duty of collection, a perfect sinecure, as the cultivators who are generally proprietors of the land in their possession usually pay their quota of assessment direct agreeable to the amount fixed at the settlement. In cases when the engaging landholder receives the rents in the first instance, he can make no demand beyond the actual land-revenue, and were such a demand made it would not be complied with, as his dues are fixed and ascertained by local prescription and long-established usage.

Transfers.

The value of land sold by order of the Courts varies very much according to locality: near Srínagar and Páori, and where waste land is scarce, in Garhwál it fetches from Rs. 60 to Rs. 80 an acre, while in other places it does not fetch more than Rs. 40. Near Almora it has been known to fetch as much as 175 times the Government revenue. In the Bhotiya mahál, where a prejudice exists against purchasing a fellow Bhotiya's land, the price is often not more than eight to 10 times the revenue. The old *sayána* families have owing to our system become much impoverished, and have now very little influence; but there never has been and never can be any very rich proprietors in the hills. The average revenue paid by the proprietors is from three to five rupees in Garhwál; while a man holding an amount of land assessed at fifteen rupees is considered a large proprietor. Still sales for arrears of land revenue are unknown, and transfers under the orders of the Civil Courts are neither numerous nor important, other than those due to inheritance or gift. The people are not generally in debt in the hills, and not at all in the Bhábar. Those that are in debt owe their position to expenses incurred in purchasing wives for themselves or their sons, or in redeeming some hereditary land to prevent an outsider getting it.

Panchayats.

Panchayats for the settlement of social disputes have long been known both in the hills and among the Tháru and Bhuksas of the Tarái. They are now usually assembled for the settling of cases of abduction or seduction of women, or offences against caste. Witnesses are heard on each side, and the award given is usually submitted to. A fine is often imposed and a feast given to the assembled brethren at the

expense of the offending party. In the Tarái, it would appear that the system is falling into disrepute, and the people prefer that cases of this kind should be referred from the District Courts to arbitrators chosen by the parties to the suit. This is not to be wondered at, when a decision giving the offending woman over to the umpire has been pronounced by the local tribunal. The Chaudhri system has been abolished for some years in the hills and is only a local and unrecognized institution in Káshipur, the only large town in the Tarái.

Population.

In 1821, Mr. Traill estimated the population of Garhwál at 6·5 per house to amount to 125,000 souls, an excessive figure all considered. There were no further enumerations until 1841-42, when Mr. Batten gave a total of 131,916 souls, of whom 42,698 were men, 28,836 were boys, and 60,382 were females. Distributed otherwise there were only 366 Musalmáns, and the rest were Hindus, classed as Brahmans 29,122, Rájputs 44,470, Khasiyas 34,502, and slaves 1,358! The next enumeration was in 1853, when there were 67,311 men, 51,968 boys and 116,509 females; total, 235,788. The next enumeration followed five years after, when there were 66,170 men, 53,857 boys and 113,299 females, or a total of 233,326 souls. I omit the census of 1865, which was faulty in many particulars, and record the result of the census of 1872. This gave a total of 310,282 souls (154,537 females), of whom 24,460 males and 23,102 females were twenty years old and under. There were 308,398 Hindus, 1,799 Musalmáns, 65 Native Christians, and 26 Europeans, nearly all of whom were agriculturists. The census of 1881 gives a total of 345,629 souls (174,874 females), of whom 343,186 (174,171 females) were Hindus, 2,077 (538 females) were Musalmáns; 26 were Jainas (?) and 297 were Christians. Of the males 390 were employed by the Government; 1,391 in Hindu religious establishments; 102,473 in agriculture; 3,052 in working and dealing in textile fabrics; 2,128 in food and drink; 183 in animal substances; 771 in vegetable substances; 2,225 in mineral substances; 561 bricklayers and carpenters, &c.; 2,749 labourers and servants and 118 others. There were 3,582 villages with less than 200 inhabitants; 270 with from 200 to 500 inhabitants; nine with from 500 to 1,000 inhabitants, and only one with more.

Brahmans.

The census statistics of 1872 show 81,038 Brahmans in Garhwál, of whom 62,803 are set down as of the Gangári division; 6,565 Ojhas; 7,291 Khasiyas; 1,988 Sarolas, and 1,542 Jais. In 1881, the figures give simply 77,960 Brahmans (39,826 females). The Gangáris are inferior to the Sarolas and are so named from living on the banks of the Ganges. Those who have settled in Chándpur and Lohba call themselves Sarolas however, and it would appear that the latter are the section of the Brahmans living along the Ganges who obtained employment at the courts of the petty Rajas. The offspring of any Sarola who sinks by intermarriage with a lower family become simply Gangáris. The offspring of a Sarola and a concubine also becomes a Gangári. Thus if a Gairola, a sub-clan of the Sarola, marries, his offspring by his lawful wife will be called Sarola-Gairola, whilst his offspring by a concubine are called Gangári-Gairola.

Gangáris.

Indeed the inhabitants of the sub-divisions away from the river call all the people living along the Alaknanda, whether Brahmans, Rájputs, Baniyas or Doms, by the generic name Gangári or Gangál, and there is no marked line of difference between the Sarola and Gangári. The principal sub-divisions of the latter are the Ghildyál,[1] the Dádai and the Malási who came from the Tarái. Two explanations are given of the superior position generally assigned to the Sarolas; one that they were selected as the parent clan to prepare food for the Rajas of Garhwál, and hence their name; another is that when a standing army became necessary they were appointed to cook for the troops in the field by Raja Abhaya Pál, who further enjoined that all should eat from one vessel the food prepared by his Brahman cooks, a custom generally observed to the present day. All the Brahmans in Garhwál are commonly styled Gangáris, but the better classes call themselves Sarolas, amongst whom the following sub-divisions are found:—Kotyál; Simwál; Gairola, usually cooks; Kanyúris, attached to the civil administration of the Rajas; Nautiyáls, teachers; Maithánis, servants; Thapalyáls;

[1] The Ghildyáls serve at the temple of Kâns-mardini Debi; the Unyáls at the temples of Mahikh-mardini, Kalika, Rájrájeswari, Gharári and Damanda Unyál; the Aswáls at Jwálpa and several Bhairava temples.

Ratúris; Dobhals; Chamolis; Hatwáls; Dyondis; Maláguris; Karyáls; Naunis; Semaltis, cooks; Bijilwárs; Dhuránás; Manúris; Bhattalwális; Mahinya-ke-Joshis and Dimris.[1]

Most of these names are derived from the *thát* or village of origin of the sub-division. The Dimris are the cooks of Badrináth and the food prepared by them may be eaten by all classes. Some are temple priests and claim to belong to the Dravira division, the Kasyapa *gotra* and Madhindhiniya *sákha* and to follow the Yajur-veda. Many Dimris claim a southern origin for themselves, and others state that the Dimris are the offspring of the celibate Ráwals of the temple and the Brahman female attendants who settled in the village of Dimar, and hence the name. They are now the servants of Badrináth in particular and some have taken to agriculture, whilst others wander all over India, asking for alms and selling images of the deity stamped on metal or exposing them for the worship of the faithful. Their principal villages are Dimri, Ráigaon and Umatta.

Dimris.

Ratúris derive their name from Ratúra, a village of Chándpur, and claim to have come there from Maháráshtra in the time of the Pála Rajas to visit Badrináth and to have remained in the service of the Chandpur Raja. They belong to the Bharadhváj *gotra*. They now occupy themselves with agriculture and service and as priests. They and the Dimris intermarry with other Sarolas. The Gangáris, like the Khasiyas, serve in the temples of the village deities and as priests of Bhairava; but the Sarolas, though not very orthodox in their ritual, only worship the orthodox deities. The Garhwál Brahmans have a reputation for gaining their ends by servile flattery, and the Khasiya section are reckoned so stupid and stubborn as to be only managed by fear; hence the proverb:—

Ratúris.

"Garhwál samán data nahin bina láthí detá nahín."

The Nirolas are considered to be somewhat lower in the social scale than the Sarolas and contain in themselves in a separate class a number of sub-divisions known generically as Dubhági, for they neither eat from the hands of either Sarola or Gangári nor inter-

[1] The Nautiyáls, Maithánis, Kanyuris, Ratúris, Gairolas, Chamolis and Thapalyáls call themselves Gaur Brahmans, whilst Dimris, Semaltis, Hatwáls Kotiyáls and Lakheras claim to be Draviras whose ancestors came here to prepare the *bhog* or consecrated food of the idol at Badrináth.

marry with them. They are found in the Nágpur parganah from Rudrprayág to Kedárnáth. They have several *gotras*, such as Kasyapa, Angiras, &c., and hence the name Nánagotri given to them. Their principal sub-divisions are:—Dhúsáli, Jamlogi, Batanwál, Kandhári, Baramwál, Silwál, Poldi, Bilwál, Garsára, Thalwál, Gugleta, Kimoti, Maikota, Darmwára, Dyolki, Kandyál, Thalási, Phaláta, Gatyál, Dhamakwál, Sanwál, Managwál, Bamola, Binjál and Ganai. Most of these names are derived from some village. All intermarry with each other and now follow agriculture, service, peddling and providing for the wants of the pilgrims to Kedárnáth, who are regarded as their legitimate prey and shorn accordingly. The Nirolas have a bad reputation in this respect, and hence the sayings:—

Nirolas.

Anyayopárjitam dravyam dasavarshání tishthati,
Práptechaiká dase varshe samúlamcha vinasyati.

'The hoard of ten years (of the cheat) perishes in the eleventh.'

Dukhdái jo hota hai hará bhará náhi hoy,
Jaise tarwar bet ka phúlai phalai na koy.

"The oppressors shall not succeed in house or suit,
Like the rattan he shall have no flower nor fruit."

The Naithána Brahmans belong to the middle class and Bharadhvája *gotra*. They ascribe their origin to Jwálapur near Hardwár in the Saháranpur district, whence they came some thirty generations ago and took service with Raja Sona Pála.[1] They belong to the Gaur division and owe their name to the *thát* village of Naithána. They are distinct from both Sarola and Gangári, but the better class of Naithána Brahmans intermarry with the former and the poorer with the latter. They affect service especially and were formerly employed by the Rajas as inferior clerks to the Dobhál and Kanyúri diwáns and are now found both in Government service and in that of the Tihri state. The Bharadhváj *gotra* seems to be the favourite one in the hills for all the Khasiya tribes converted to Hinduism and who never thought of belonging to a *gotra* before, just as, in the plains, all Hindu converts to Islám become Shaikhs and with time and money may become Sayyids with a genealogical table ready prepared by an indigent Maulvi showing their direct

Naithánis.

[1] Gaz. XI. 446.

descent from the prophet. These pious frauds are, however, not unknown in Britain and serve to show that this weakness is common to human nature all over the world. The Kanyúri or Khandúri Brahmans belong to the Saunaka *gotra* and Madhandhiniya *sákha*. They are so called after their *thát* village of Kanyúra in parganah Chándpur. Though ranked as Brahmans, they are called hill or pahári Káyaths or writer caste and have been for many generations diwáns and kanúngos in Garhwál and still supply members for the latter office. The *gotra* is the same as that of the Raja of Garhwál, who has several in his employ, and a few families of this clan still exist in the Dehra Dún.

Kanyúris.

A couple of Gaur Brahmans from Benares came to Garhwál about two hundred years ago and settled down in the village of Bughání, which they obtained free of revenue. Some say that the Bughánas have the same origin as the Naithána Brahmans and are a portion of the immigration from Jwálapur. They have the same relations with the Sarolas and Gangáris and still hold a village free of revenue as *muáfi*. They are intelligent and when educated make useful clerks and official.

Bughánas.

The professional priesthood may be divided into two classes—the personal spiritual preceptor or purohit and the temple priest. Neither class has a good reputation and both are the objects of numerous lampoons attacking them for debauchery, cheating, lying, and an utter disregard of the principles they are supposed to teach. Hence the phrase—

"Khudra fajíhat digarè nasíhat."

"Wicked yourself, you teach others."

And again—

"Ao rande rând háko dáko ápán rândile hurkiya rakho."

"You keep mistresses and yet you preach purity."

They eke out a livelihood by cultivating the small grants of revenue-free lands in *gúnth* usually attached to each temple and have by prescription a right to certain portions of the offerings and to dues on festal occasions, marriages and births and other rites. The principal sub-divisions of the Pujáris or 'officiating priests' are Khajyúras, Dubes, Bharotras, Barsotras, Pangotras, Sudans and Bhatts; the last corresponding here with the Mahábrahman of the plains, whose

principal duty is attending to funeral ceremonies. The Garhwál Joshis all ascribe their origin to Kumaon; some from Joshiyána village near Hawálbágh, others from Jhijár, Galli and Joshikhola in Almora. Where they know their *gotra* and *sákha*, it is the same as in Kumaon, but here they intermarry only with the Gangári and Nánagotri Brahmans and not with the Sarolas. In Garhwál the name Upreti becomes corrupted to Kukreti: so Joshi becomes Júsi and Tiwári or Tripathi becomes Tyári. Unlike their brethren in Kumaon, the Joshis of Garhwál are poor and chiefly depend on their profession as family astrologers and cultivation.

Joshis.

Another class of Brahmans in Garhwál is called Saknyáni or Shaknyáni, a name also given to the Himálayan tract to the north of the eastern Dún. Common report makes them the progenitors of both Sarolas and Gangáris and the name is said to be derived from the great Saka race.[1] Others connect the name with a colony of ascetics who lived near Tapuban and Rikhikes; others again assign the name to a great grove of *sakin* trees, whose bluish flowers were used in worship and which gave the name of Sakinyáni to the *thát* village and Saknyáni to the people. Those who remained on the banks of the Ganges became known as Gangáris. They intermarry with Ghildyáls, Unyáls, Ingwáls, Dádais and Naithána and Bughána Brahmans. There are numbers of so-called Brahman sub-divisions of which little more than the names are known. Some of these names are derived from the villages occupied by them, such as Anethwáls of Aneth village, who claim an origin from the Dakhin; Chhapaliya from Chapál village originally from Káli Kumaon; Lakhera from Lakhera village originally Gaur Brahmans; Chamoli Kirswán and Kaptwán from the Chamoli village originally Sáraswati Brahmans; Pokharyál from Pokhri; Saláni from Salana; Kotyál from Koti; Mamagái from Mama; Bhartúla from Bhartúli; Nainwál from Nail and Dhaundyál from Dhaund. The Jiyáls say that they came with Jiya Ráni on a pilgrimage and remained here. Kálás are named from an ancestor and the progenitor of the Purbyáls came from the east. Panjolas

Saknyáni.

[1] D'Anville's reproduction of the Jesuit map of Tibet prepared in 1708-18 gives the name Sanke Somtou to the hill country north of Dehli and adjoining Piti. Markhams' Tibet, lxi.

are of Kanaujiya descent, Utanis call themselves Dubes. Tyáris, Pants and Pándes came from Kumaon, and the Molapas are Bhatts from Benares. These indications sufficiently explain the names in the long list of so-called Brahman castes in Garhwál, which may be divided into the indigenous or Saka, comprising those recorded as the Sarola, Gangári and Khasiya and the immigrants from the plains.

Religious fraternities.

Amongst the professional priesthood those of the fraternities called generically Jogis occupy an important position in Garhwál. Under this term we include Náth-kánphata, Biná-kánphata; Giri, Puri, &c., of the Dasnámis, Jatádhári, Aghori, Paramahansa, Gurudasi, Sádhu, Brahmachári, Sanyási, Rámánandi, Bairági, &c. These may, however, he reduced to three great classes or perhaps four; the Gosháins, the Bairágis, the Jogis who serve in the Bhairava temples and others. The census papers show 1,125 Gosháins and 1,063 Jogis in 1872 and a total of 2,620 in 1881. The former are divided into ten classes, each of which has a separate title by way of affix noticed elsewhere[1] and are therefore called the Dasnámi Gosháins. There are four great sub-divisions or schools, each following its own traditional custom or usage which is marked by the following differences :—

	Eastern.	Western.	Northern.	Southern.
Chief *math* ...	Bhú Gobardhan ...	Sárada ...	Joshimath ...	Sringeri.
System of religious teaching.	Bhogbár ...	Kítabár ...	Anandbár ...	Bhúribár.
Affixes of followers.	Ban, Aranya ...	Tírtha, Asrama.	Giri, Parvata, Ságara.	Sárasvati Bhárati, Puri.
Special holy tract.	Purushottama Puri or Jagannath.	Dwárika ...	Badrináth ...	Rámeswar.
Special deity (male).	Jagannáth ...	Siddheswar ...	Náráyan ...	Adi-báráh.
Ditto (female)	Vimala ...	Bhadrakáli ...	Purnagiri Devi,	Kámákshá (Kamrup).
Achárya ...	Hastámalaka ...	Padmapáda ...	Trotaka ...	Suresvara or Prithyudhar
Special place of pilgrimage.	Mahodadhi ...	Gumti ...	Alaknanda ...	Tungabhadra.
Guru ...	Prakása ...	Svarúpa ...	Nanda ...	Chaitanya.
Veda ...	Rig ...	Sáma ...	Atharva ...	Yajur.

[1] Gaz. XI. 862.

The Tírtha, Ásrama, Sárasvati and Bhárati divisions carry staves and are hence called Dandins. All are eligible for the office of Mahant, the title given to the head of each *math* or convent. All are supposed to be celibates, but as a rule concubines are kept by all, and from their offspring and children dedicated to them their ranks are recruited. The novices are called *chelas*, and when the boy is eight, ten or twelve years old, according to the custom of the branch, he is endowed[1] with the sacred thread (*upanayana*) and the rite[2] called *churákarana* or shaving of the head (leaving a top-knot) is gone through in the orthodox way. He is subsequently brought to the Mahant and the sacred thread is removed and burned and in place thereof a string of beads (*rudráksha*) or rosary is given;[3] the top-knot (*choti* or *sikha*) is shaved off and a *tilak* or frontal mark from the ashes of the burned *janeo* is applied instead of sandal on the forehead of the novice. The Mahant then whispers the *mantra* of initiation and the novice becomes the adopted son of the Mahant or of some member of the fraternity and his *gotra* henceforth is the Atreya. He gives to his spiritual father certain offerings every year which amount to a fair stipend. The clothes worn by the members are of an ochry or dirty brown colour known as *geruwa*. The term 'Gosháin' is applied to all fraternities; Dasnámis are addressed as Bábájí, Gosháinjí, and when spoken of as Jogi or Mangta. The Dasnámis are scattered all over the district at the various temples, and live on the offerings and the small patches of land attached to these temples free of revenue, and during the harvest months they wander about begging from door to door and sell the proceeds or store them for their support: see further KUMAÓN. The Puri branch serve at Kanaleswar, Narmadeswar, Nágeswar, Kalkeswar and Naleswar (Gartara): the Giri branch at Briddh-kedár, Bhilwa-kedár, Dattátreya, Sarbeswar and several temples to Durga, Bhawáni and Mahádeo and the Bhárati branch at Rudranáth and Narmadeswar. A Gosháin is buried in a sitting posture with the rosary in his hands and in front his books. Sweetmeats for the refection of the *pret* are placed within, and some salt to protect the body from worms. Over the grave is placed

[1] Gaz. XI. 803. [2] *Ibid*, 992. [3] If the novice loses his beads he cannot eat or drink until they are found or until he receives a fresh allotment from his superior.

a small cupola-shaped stone or tomb, and in this is a recess for lamps which are occasionally burned in his honor.

Jainas.

The Jainas or Saráugis are not correctly noticed in the census reports, but are, for the most part, included amongst the Baniyas, being chiefly traders by profession. Their distinguishing characteristic is their tenderness for animal life. For this reason they drink only water strained through a cloth, and before lighting a fire the wood is shaken and dusted so that no animal may remain therein. They never cook food after dark lest by accident some insect might escape detection in the darkness, and only eat with those of their own faith who observe similar precautions. They possess temples and present offerings of rice, sandal, flower and fruit before the image of Párasnáth and Mahávíra, their great teachers. The Sádhus are Jaina Jogis and serve their temples in some places. They use neither conch nor bell in their worship and do not offer cooked food. Many of the families settled for a length of time in Garhwál have the title Mahta, meaning 'respectable,' like the Bhalamánas of the plains. They do not admit others into their temples, as the Jaina deities are all naked and cause scoffing remarks on the part of heretics. Their purohits and gurus are chosen from Brahmans and their funeral ceremonies differ in few respects from the practice amongst Hindus. They marry amongst members of their own faith, such as Agarwálas, Aswáls and the like.

Baniyas.

Baniyas or traders are recorded as numbering 3,007 soul in 1872 and 3,657 in 1881. They are Hindus and Jainas by religion and the principal clans in 1872 were :—Aswáls, 1,889; Agarwáls, 374; Chaudhris, 407, besides Bishnois, Dásas and Saráugis. The Oswáls or Aswáls are Jainas belonging to a separate *gachha* or *gotra* of whom some account has been given elsewhere[1] and being a caste from the plains need not be noticed here. The Agarwáls also come from the plains, from Agroha in the Sirsa district of the Panjáb, and claim descent from Raja Ugrasena. To them also belong the Dásas and Dhúsars. The Mahesrís are also Jainas. The Chaudhris have come from Kumaon and are related to the Chaudhris of Dwárahát and Rawári

[1] Gaz. III., 497. [2] *Ibid* II. 396.

in Kairárau. They call themselves Bhárgavas or descendants of the sage Bhrigu, a common device of these miscellaneous low-caste Baniyas. In Dwárahát, however, the Chaudhris attained to considerable influence by reason of their being employed in the civil administration of the Rajas and still furnish some of the Kánúngos of Kumaon. In Garhwál, they are found in Chaundkot and Nágpur, where they intermarry with Khasiya Rájputs. The word 'Chaudhri' is more a title like 'Mihtar', 'Padhán,' &c., than a caste name, but allowed by common use to members of certain families. The Bishnois have been described elsewhere[1] and are all immigrants; the name represents a form of religious faith, not a caste, and is in this respect akin in significance to Saráugi. The sect arose in the fifteenth century near Nagor in Rájputána; they eat in common, but marry only in their several castes. Baniyas, Sonárs, Játs, Gújars, Nais, Khági Chauháns, Juláhas and Chamárs may all be Bishnois and eat together, but marry into their own castes only. They avoid flesh, fish, tobacco, spirits and drugs, and offenders in this respect are expelled. Some even do not eat sweetmeats made in the bazar. They wear the top-knot, but not the sacred thread. Some of their practices tend towards Islám and many adopt Musalmán names, bury their dead and listen to the preaching of maulvis and the reading of the Korán. They are found in Kotdwára and Srínagar and have come there from Nagína in the Bijnor district. They worship fire especially and their principal form of worship is an offering of *ghi* or clarified butter to the fire, the *aghárá-homa* of the ritual in use in the hills.

In 1872, the census records showed 152,065 Rájputs in Garhwál, the principal clans represented being Bhal, 1,997; Bhadauriya, 4,005; Baghel, 4,552; Bharadhváj, 1,496; Khasiya, 58,000; Negi, 15,880; Ráwat, 46,044; Solankhi, 5,344; and Bisht, 4,956. In 1881 the records showed 204,519 souls. The Khasiyas, Negis, Bishts and Ráwats are of local origin and comprise together nearly nine-tenths of the entire population recorded as Rájputs. The remainder profess to be descended from clans whose origin is traced to some district in the plains. Khasiya means a resident of Khasdes, the name common to Garhwál and

Rájputs.

[1] *Ibid* III., 293.

Kumaon, and here I have included the Khasiyas entered under Rájputs and those entered under 'other castes.' Negi means perquisite or due, and was a title given to any one holding military or civil employ under the former Rajas and has been transmitted amongst the Khasiyas as a caste title. Similarly Bisht, or more correctly Visisht, means 'good,' 'respectable,' and is a title, more than a real caste name, like Sáhib, &c. Ráwat, too, means a sardár or officer, such as a padhán and the like, and has now grown also into a caste appellation. Each of these are further sub-divided: thus the Negis have sixteen sub-clans :—Kála, Ekái, Fateh Bahádur, Simána, Salárya, Múnda, Baglána, Malása, Khatri, Dogra, Myor, Jagye, Kalini, Nagarkotiya, Pátali and Pharái. The Bishts are divided into Kaphola, Padyár, Híta, Kanhonina, Basnál, Bharela and Sábaliya; and the Ráwats into Ringara, Bangára, Golla and Silála. These last give their names to Ráwatsyún, Ringwarsyún and Bangársyún sub-divisions in Garhwál. The Aswáls of Aswálsyún claim to be Chauháns: the Bartwáls to have come from Dáránagar; Sajwáns from Jalandhar; Ghurduras of Ghurdursyún belong to the clan of the Raja of Tíhri; Myors from Mewár; Mállas from Nepál; Kathávats from Kali Kumaon, and Rautelas from Kumaon. Khatris have only recently settled here. The Butolas of Badhán claim to be Tuárs from the plains. The Rauthánas of Chaundkot are apparently descendants of Gosháins. Bhandáris are descendants of personal servants of the Raja. Panwárs, Pandírs, Ráthors, Chauháns, Solankhis and others of the more prominent Rájpút tribes of the plains have their *soi-disant* representatives in the hills. Besides these there are numerous sub-divisions of the Khasiya Rájput population named after the *thát* or parent village and carrying its name wherever they go: such as Patwál, which gives the name to Patwálsyún; Kaphola, hence Kapholsyún; Bagarwál, Ambána, who were Bhatts of Benares, but here are Rájputs; Rámola, Dánas or Dánavas, representatives of the old tribe of that name; the Khandwáris, Durhyáls, Sunaulas, Dalanis and Bukilas call themselves Ráwats; Boras, Kairas and Choriyas came from Kumaon. All are engaged in agriculture or petty trade. None will call themselves Khasiyas; all style themselves Rájputs and many say that they were settled in their present villages before Brahmans and Rájas came. They

worship principally the village gods, care little for Brahman aid in their domestic ceremonies unless he be a Khasiya, do not wear the *janeo* or sacred thread, and on occasions of joy or sorrow, marriages or deaths, the house is simply purified by cow-dung and cow-urine. The marriage or funeral ceremonies are short or long according to the purse of the employer. They intermarry with each other according to local rules peculiar in some respects to each tract, but not worth recording here.

Out of the total of 308,398 Hindus in Garhwál in 1872, we have noticed the Brahmans (81,038), Rajputs (152,095) and Baniyas (3,007). We now come to the 'different castes' of the census tables, numbering 72,258 souls, the greater number of whom come under the generic term Dúms or Doms. Others are the Márchas of the Painkhanda parganah, 15,419; Sonárs, 3,349; religious fraternities, 2,500, and prostitutes, 3,183. In 1881, the other castes numbered 54,430 souls, of whom 1,478 were Chamars, 52,000 were Doms,[1] and 292 were Bhangis.

The most important of these different castes is undoubtedly that of the Doms or Dúms, the serfs of the Khasiya race from Afghánistán to the Káli. Wherever the one exists the other is certain to be found. In the census tables they are distributed according to occupation, but none the less are the people thus distributed Doms, for in 1881 they are returned at 52,060 souls. They are divided in popular estimation into four classes. To the first belong the Kolis, Tamotas, Lohárs, Ors and Dháris. The Kolis in Garhwál were returned at 11,040 in 1872: they weave cloth and keep pigs and fowl and are agricultural labourers. The Tamotas or Tamtas entered at 683 and as Rajputs at 5,761. They represent the Thatheras of the plains and are workers in brass and copper; some work also in gold and also take to agriculture. The Lohárs are workers in iron and numbered 14,322 souls. The Ors comprise both masons and carpenters and numbered 2,800 souls. Dháris, though socially ranked with Doms, do not belong to them, for they properly include only those Khasiyás who have been put out of caste for some offence or another and their offspring form a new caste

Doms.

[1] In this respect the census of 1881 is far more accurate, for the Doms comprise twenty-three out of twenty-four of the 'other castes.'

with the addition of the avocation of the member. The first class comprises about 34,000 souls. To the second class belongs the Bhúls, Chunyáras, Ruriyas, Agaris and Pahris. The Bhúls represent the Telis of the plains, but also do field work ; they are also called Báryas and are perhaps the Berhias of the census ; but this title with its 161 souls cannot include all properly classed as Bhúls, though we add the 263 entered as Telis. The Chunyáras are turners and make the wooden vessels known as *theki*, *páli*, *kathári*, and also hukka bottoms. The Ruriyas manufacture from the *ningál* bambu various articles, such as the *daliya*, *tokri*, *kandi*, *súp* (various kinds of baskets and sieves) and numbered 2,638 souls. Only 312 are entered as Agaris or miners, or smelters and the like who give their name to the Agar patti near Rámgarh in Kumaon. They are Doms attached to the service of the mines by the former Rajas, but are now gradually exchanging a very-ill paid and dangerous avocation for that of road-makers and other profitable occupations. They used to migrate from Kumaon to all the principal mines in both Kumaon and Garhwál, taking with them their women and children. The Pahris are the village messengers and perform functions precisely similar to those of the Chamár *góraít* of the plains. They collect supplies, make reports to the patwáris, collect coolies for the roads and the like, and receive in return dues in grain and a small patch of land. The second class of Doms number about 4,500.

To the third class belong the Mallahs, Daryás and Chamárs. The Mallahs are also called Dhunárs and are engaged in agriculture for the most part : they numbered about 900. The Daryás are village sorcerers who conjure away hail-storms and the like and receive dues of grain in Jeth. The Chamárs number 1,011 souls and call themselves Bairsuwas and will never acknowledge the name Chamár. They sew leather and perform all the usual service duties of the Dom. The third class includes about 2,500 souls. The fourth class includes the professional beggars and vagrant musicians of the hills, the Bádi, Hurkiya, Darzi and Dhobi. The Bádi is the village musician, playing on various instruments and singing at the festivals. He also goes from village to village begging from door to door, and belongs to the class of sturdy beggars who, if they do not get what they expect, lampoon the people of the house and abuse them. For

this reason they are to some extent feared and are able to maintain themselves at the cost of their neighbours. They also snare fowl and fish. The Hurkiyas are so called from the small drum or *hurka* which they carry with them. They never take to agriculture, and wander about with their women, who dance and sing. The Darzi, also called Auji and Súji, lives by tailoring, though also often solely agriculturists: 3,000 are thus recorded. To the Darzi class belongs the Dholi, so called from beating the drum named "*dholak*". This is done by way of incantation to cause sprites and ghosts to enter or to leave the person of any one and so induce that person to give money to the performer. The Daiyá, Bádi, Hurkiya and Dholi are all Doms and are in the hills the recognized priests of the malignant spirits of the hill and glen, whose aid is always sought after, before anything serious is undertaken or any difficult task is attempted. It is the Doms who preserve to the present day the pure dæmonism of the aborigines, whilst the Khasiyas temper it with the worship of the village deities, the named and localised divine entities, and furnish from their ranks the priests. Similarly for the orthodox deities there are numbers of orthodox priests, descendants of those born in the plains and themselves dependant upon the alms of visitors for their livelihood.

The Barhais include some from the plains, but the mass belong to the Or division of the Doms. The Chunapaz or lime-burners of the census belong to the Agari and Lohár branches of the Doms. The Malláhs or Dhunárs are found on the ferries of the Alaknanda near Srínagar. Doms of the Bádi, Dholi and Hurkiya sub-divisions who take for a livelihood to snaring animals call themselves Baheliyas after the clan of that name in the plains. Nats are similarly those of the same class who wander about as acrobats and jugglers and assume the plains' name of their calling. Stone-cutters frequently come from the plains, but most of them are Doms of the Or class. Manihárs are, for the most part, Musalmáns; they manufacture lac bangles, an occupation also followed by Doms. There are a few Káyaths from the plains in Srínagar and Tihri. Bháts are of two classes, Hindus and Musalmáns, and are found in Nágpur, Pokhri and Bárahsyún, where they are known, like the Bádis, to be of the sturdy beggar class, abusing the people if they

do not get what they ask for. The Bogsas or Bhuksas occur towards the Pátli Dún and some used to live near Srínagar, but the King James of Garhwál having been informed that they practised sorcery and also were in league with those who plundered the pilgrims, called them together and threw them with their books of magic into the Alaknanda. There are a few Játs in Kotdwára and Garariyas in the Bhábar. The Bharbunjas or grain-parchers, Dhunas or cotton-cleaners, Chhípis or calico-printers, and Kaláls or pedlars are from the plains and are only found in Kotdwára and Srinagar. Dhobis are Doms and there are a few Náis or barbers in Pokhri Nágpur on the pilgrim road. Pajáis or potters (Kumhárs) are found in Dhámak and Chalansyún; some are from the plains and others are Doms. Sonárs are chiefly descendants of immigrants from the plains and use the term Chaudhri as an honorific appellation; they have a bad reputation in their dealings. A Tamoli or *pán*-seller may be of any class or caste. It is unfortunate that in our census reports so many avocations have been entered as castes, making confusion worse confounded.

Bhuksas.

Mention has already been made of the Bogsas or Bhuksas. Elliot records that they are divided into fifteen clans or *gots*, of which twelve are of superior rank and three are of inferior rank. The superior are the Badgujar, Tabári, Barhaiya, Jalwar, Adhoi, Dogugiya, Ráthor, Nagauriya, Jalál, Upádhiya, Chauhán and Danwariya. The three inferior are the Dhimar (the offspring of a female oil-presser (Telin) and a Rathor); Dungra (the mother being a hill-woman) and Goli (the mother being a woman of the barber caste). Like the Chamárs, Doms and Pásis they borrow the names of Brahman and Rájput clans for their own and in this habit give an additional proof of their not being true Rájputs. Their names are the same as those of Hindus around them with the addition of such names as Pálu, Dhani, Mangu and Kákha, common, however, to all the lower castes of the submontane tribes. Their language is Hindi with a few peculiar words as *kandár* for *sál* and the use of *n* for *l*, as *sán* for *sál*, *nath* for *láth*, and less frequently of *r* as *dari* for *dali*.[1] They do not marry into their own *got*, but may take a wife from any other and those who live in the neighbourhood of the Tháru are said (?) to

[1] Stewart in J. A. S. Ben. (1865), p. 147.

intermarry with them. The Bhuksas of the Bijnor district, however, affect to despise the Thárus. The Bijnor Bhuksas call those to the east of the Rámganga Purbiyas and those of the Dehra Dún Mehras. In the Bijnor district, the Bhuksa villages are distributed over the forest along the foot of the hills outside the demarcated forest tracts. The huts are placed end to end with intervals after every group of three or four and the walls are, for the most part, built of split bambu and mud or thatch, of which the roof also is constructed. The floor is well raised and kept very clean and there are two low doors, one leading into the living room and the other from it into the cattle-sheds. The furniture consists of a string cot or two, a thatch mat and some wattle and mud baskets for storing grain.

The Bhuksas of the Garhwál Bhábar are the gold-washers of the Pátli Dún. They work in gangs of three or four, each having a separate part of the process assigned to him. A shovelful of the sand is first put upon a little close-set bambu screen or sieve placed over the upper hinder part of a flat tún-wood cradle (*sand*), the lower end of which is open and which has handles by which its upper end can be tilted; water is then poured on the sand from the mouth and lateral hole of a dried pumpkin (*tumrí*), the operator stirring the sand with his left hand while he sits alongside the cradle which is raised a foot or two from the ground. The sand having been washed through, the gravel is thrown away, but the screen is left on to equalise the fall of water from the pumpkin passing through it on to the sand which the left hand keeps in motion by stirring it about and raking it backwards towards the upper end of the cradle. After all the lightest of the sand has thus been washed out, small quantities of the remainder are placed on a round slightly hollowed plate of tún (*pharu*) which is dexterously twirled and made to oscillate on the fingers of the left hand whilst the washing is very gently continued. When as little as possible except gold is left, mercury is rubbed with it by hand to take up the gold and the mercury is afterwards dissipated by heat. There is nothing in the appearance of the sand to disclose the presence of gold which is found by prospecting and occurs only in the form of dust.

In all Garhwál in 1872 there were only 1,800 Musalmáns and in 1881 there were 2,077, chiefly traders and servants. In the same

year there were 242 Christians chiefly connected with the American Episcopal Methodist Mission at Páori. This began in 1865 and a bungalow and school-house were built in 1871. The teaching is quite up to the standard in the higher class Government schools, none of which exist in Garhwál. There is also a boarding-house for boys and a girls' orphanage and boarding-house erected in 1872, besides schools-rooms and matron's quarters. It has accommodation for forty girls, who divide their time between study and work. A dispensary was added in 1873, which affords accommodation to a native doctor's family and a few in-door patients and relieves over two hundred out-door patients a month. There are stations in connection with this mission at Chhiphalghát, Kotdwára and Srinagar and branch schools for boys at Srínagar (besides two small girls' schools), Chhiphalghát, Bangár, Gagwára and Koti.

Musalmáns. Christians.

The first convert was baptised in 1867, and in 1884 there was a large colony of Christians, chiefly Doms of the Koli, Or and Lohár sub-divisions, who are encouraged to remain in their village and pursue their usual avocations after baptism. The Mission has done excellent work, and if there were more on the same lines elsewhere, the success of Christian Missions in India would be more assured.

Owing to the lateness of the conquest of Garhwál there was no attempt on the part of the Gorkhális to form a settlement there until 1811 (1219 *fasli* or 1868 *san*). In that year a regular commission was sent from the Nepál darbár consisting of Dasarath Khatri and Bahádur Bhandári for the purpose of forming the assessment of the land-revenue, which with a few reservations in favour of individuals and temples was assigned in favour of troops, of whom three battalions were cantoned in Garhwál. The assignment was by companies, of which there were five in each battalion, receiving each Rs. 8,672 *G. R.* per annum, and in addition the captain commanding received Rs. 5,005 a year, giving a total of Rs. 1,45,095 *G. R.* to be defrayed from the land-tax and cesses. The assessment of 1811, which continued to be the demand until the British conquest, amounted to Rs. 87,724 *G. R.* (=65,793 *Fd.*) whilst the actual receipts were for 1811 Rs. 71,819 *G. R.*, for 1812 Rs. 57,735 *G. R.*, and for 1813 Rs. 51,62[illegible]

Fiscal history.

G. R.[1] (=38,718 *Fd.*) The high rate of this assessment entirely precluded its realisation in full, and as the soldiery entirely relied upon it for their pay, no leniency was shown in its collection, and 'where default' occurred, the families of the cultivators were seized and sold as slaves. Under such a system, cultivation rapidly decreased and what were once flourishing villages relapsed into jungle and became the home of wild beasts. The assessment, however, was in general based on the actual capabilities of each village and for the earlier settlements under the British proved a valuable guide as to what the assets might be supposed to amount to in favourable years.

The miscellaneous revenue collected with and in addition to the land-tax mounted in Garhwál to Rs. 22,145 *G. R.*, of which Rs. 1,147 were on account of *salámi* or *nazarána ;* Rs. 454 on account of *mijhári*, a tax on Doms as curriers; Rs. 1,283 as *tandkar*, a tax on looms; Rs. 1,495 *soniya phágan* or *bhet* on festivals; Rs. 2,401 on mines and mintage; Rs. 1,485 *adhani daftari*, or kánungo cess of half an anna; Rs. 10,900 *sáir*, customs and transit duties; Rs. 170 for *kuersál* or *kath* (catechu); Rs. 600 on account of *kathbáns* (timber and bamboos); Rs. 200 other customs duties; and Rs. 2,000 *asmáni farmáni*, from fines and forfeitures. There were amongst these dues an excise on spirits, drugs, soap and tobacco, as well as mintage and ferry dues, a tax on the sale of children and one on marriage. The transit duties were collected at Kotdwára, Bhuri, Bilásni, Sigaddi, Bábli, Kangra and Chobi on the frontier towards the plains and at Joshimath and Tapuban towards Tibet. Until further inquiry could be made these dues were retained at the British occupation, the tax on the sale of children being alone given up.[2] The police establishment at the passes towards the plains collected the duties there and the civil officers those levied at Tapuban. Here sheep and goats laden with merchandise were assessed at three annas per head, those laden with salt at two annas

[1] There are considerable discrepancies between the figures given in the annual reports and those contained in Mr. Traill's Memoir (Stat. Acct., p. 1, app. IV, VI). In the latter, in statement B. the land revenue of 1868 *san* is given at Rs. 82,406 *G. R.* and in statement D. as Rs. 91,258 *G. R.* Hereafter I shall take these figures of the memoir, they are the result of more correct information : see to Gardener, 1st March, 1816. [2] From Government, 2nd June, 1815. [3] To Government, 29th December, 1815. A Gorkháli rupee was equal to about 12 annas Farrukhabadi, of which currency 100=100·144 present currency.

and unladen animals at three annas a score. These dues yielded altogether about Rs. 4,000 a year in our money. Akin to them were the mintage dues in stamping lumps of copper, which at one anna in the rupee brought in about Rs. 100 a year. The capitation tax on the Doms was remitted as well as a tax on marriage marriages and one on grain in transit[1]. In 1816-17 the revenue from these sources amounted to Rs. 3,201 and in the following year to Rs. 3,432. In 1818, Mr. Traill recommended the abolition of all transit duties and the collection of the revenue derived from forest produce in the same manner as the land-revenue or by farm. Both of these proposals were sanctioned by Government:[2] henceforth, the customs duties on forest produce formed a separate head under the name *kath* (catechu) and *kath-báns mahál*s and formed the nucleus of the forest department, of which some account has been given[3].

British settlement.

It was not until July, 1815 that Garhwál was handed over to the Commissioner of Kumaun, who deputed a native officer to collect information as to the actual state of the country and to receive proposals from the landholders for entering into engagements for the payment of the revenues. Mr. Traill was appointed in October to take charge of the settlement and was directed to accept the last year's assessment as the basis of his arrangements and to admit where possible the actual land-holders to engagements[4]. Tahsílis were established at Srínagar and Chandpur and a police-station at Dadamandi. Mr. Traill reported that police-stations were unnecessary in the interior from the total absence of every species of crime. The tahsíldárs were accordingly entrusted with police jurisdiction in their respective divisions. The frequency of robberies, however, in the tract immediately below the hills rendered the presence of a police officer at Dadamandi necessary, and to him was entrusted the collection of the transit duties which were still in force. The first

[1] To Commissioner, dated 15th March, 1816; to Commissioner, dated 23rd March, 1816; from Government, dated 23rd July, 1816; to Government, dated 21st September, 1816; from Government, dated 19th October, 1816. See also Traill's Statistical Sketch of Kumaun, As. Res XVI (1828); Batten's Report in Set. Rep. II., 514 (Benares, 1863); Beckett's Report (Allahabad, 1866), and Whalley's Laws of the Non-Regulation Provinces (Allahabad, 1870). [2] To Board, dated 21st February, 1818; from Board, dated 10th September, 1818; from Government, dated 19th June, 1818. *Sáir* dues abolished, 28th August, 1818. *The kath-báns* or forest dues were retained as having more of the nature of dues connected with and arising from the produce of land. [3] Gaz. X. 846. [4] To Traill, dated 8th October, 1815; to Gardner, dated 26th December, 1815.

settlement of the land-revenue[1] amounted to only Rs. 37,506 *Fd.* and was based on the actual receipts of the year 1811 A. D. Engagements were taken either from the *sayánas* or the smaller landholders for their respective villages and some attempt was made to improve the cultivation by granting leases of waste land on favourable terms. In the following year, the assessment amounted to Rs. 44,224, and at the first triennial[2] settlement in 1774 san. (1817-18 A. D.) the land revenue rose to Rs. 47,821. The settlement, except in Nágpur, was again everywhere made with the village proprietors and a considerable increase in the number of individual engagements was effected. The great distance of Nágpur from the head-quarters rendered it advisable to continue the system of settling with the sayánas for another term, but at the second triennial settlement it was found possible to admit the village proprietors here also to engagements. In the Pátli Dún, too, a settlement for one year alone was made, as the receipts were of the nature of forest dues and up to the year 1822 were incorporated in the form of forest produce.

First triennial settlement.

The mode of assessment at the first triennial settlement was similar in all respects to that adopted in Kumaun. Notwithstanding the general lightness of the settlement, it required careful revision to equalise the demand. This necessity arose from the scarcity of cultivators, which rendered it difficult for any landholder to replace losses by death or desertion. Where such occurred the deficiency was made up by immigration from other villages in better circumstances, and as the facts regarding matters of this nature were best known to the landholders themselves, the persons allowed to engage for the revenue of each sub-division were required to distribute the gross demand of the preceding year amongst the villages (a procedure called *darsur*) according to the actual state of cultivation and population, the two great factors in the assessment. To the amount thus arrived at was added the increase demandable from the sub-division on account of its general improvement by a cess of one to three annas in the rupee on the old demand. *Naudbád* villages or those newly brought into cultivation and those in which by collusion or otherwise the former revenue was shown to be inadequate

[1] To Commissioner, dated 1st March, 1816; to Government, dated 21st March, 1816; from Government, dated 20th April, 1816. The revenue is here given at Rs. 37,614 for 1815-16.

[2] To Government, dated 21st June, 1818.

were not included in this arrangement, but were separately settled on their ascertained assets. These last were confined almost entirely to such as had hitherto claimed to pay a fixed revenue[1]. These assessments were uniformly made with the *padháns*, who were remunerated by an arrangement made with their co-sharers in Garhwál and in Kumaon by a grant of land free of revenue and certain dues. The revenue was collected by the *padháns* and by them paid to the civil officers. As a rule in *naudbád* villages the collections were made by *batái* or division of produce and in others by *kist* or an estimate of the produce, but money rates prevailed in all the old established villages throughout both districts[2].

Fourth settlement.

The second triennial settlement was formed on the same principles owing to the reluctance of the landholders to engage for a term longer than three years. This reluctance was said to be based on the migratory habits of the cultivators, and the landholders were not prepared to engage for a revenue which the desertion of their tenants would prevent them from meeting. Cultivators were scarce and arable land to be had for the asking; so that illness of men or cattle in a particular village often led to its desertion for a time and the fiscal arrangements were not so workable as now and remissions and suspensions not so freely given. The condition of Garhwál differred considerably from that of Kumaon at this period[3]. Owing to the precipitous nature of the hills it never contained the same proportional area of cultivable land as Kumaon and had always a lighter population per square mile. If to this cause of backwardness be added the wholesale removal of families for sale by the Gorkhális[4], the comparative slowness of its progress may be readily explained. Little, too, of the wealth which poured into Kumaon at the conquest reached Garhwál. There were then as now no great military establishments and no sanitaria, and the means of communication were too difficult to admit of the export of the surplus produce.

[1] To Board, 14th March, 1821. [2] The principal correspondence regarding these earlier settlements will be found as follows:—Traill, to Board, 15th February, 1820; Board Rec., 3rd March, 1820, Nos. 7, 8; *ibid.*, 5th May, 1820; *ibid.*, 14th August, 1821, No. 35, *ibid*, 30th May, 1825; *ibid.*, 30th July, 1825, Nos. 3-9; *ibid.*, 13th March, 1826, No. 16; *ibid*, 13th July, 1826, No. 14; 3rd August, 1826; No. 13; 31st August, 1826, No. 15; 25th September, 1826, No. 9; 7th December, 1826, No 10; 22nd January, 1827; 10th May, 1827; No. 3; 30th August, 1827, No. 26; 1st October, 1827, No. 19; 28th August, 1828, No. 3. [3] To Board, 25th September, 1821. [4] See Gaz. XI, 615, 618, 620.

A rise in the price of grain therefore had no effect in Garhwál, and when, in 1821, only twenty seers of grain were procurable for a rupee at Almora, grain of the same quality might be had in many districts of Garhwál at eighty seers for the rupee. The western parganahs along the course of the Alaknanda, and those to the north under the Himálaya, were more favoured in this respect, as the demands of the pilgrims to the sacred shrines of Kedárnáth and Badrináth and of the Bhotiyás for the Tibetan trade were sufficient to consume the surplus produce. The hemp cultivation that had once been a considerable source of revenue had ceased in consequence of the discontinuance of purchases on account of the East India Company. Although some slight increase in the land-revenue demand was possible at the second triennial settlement, it was due not to any appreciable improvement in the resources of the country, but to the fact that the assessment at the former settlements was exceedingly light[1]. In Garhwál, as in Kumaon, the habit of deserting a village without any adequate cause was common amongst the cultivators. From the extreme depopulation which took place during the Gorkháli rule the number of deserted villages was considerable and in many of those most recently abandoned the houses were still standing and fit for occupation. Great facilities for desertion were thus provided. Enterprising land-holders convinced of the security of the new Government eagerly sought after tenants to settle in their deserted villages and thus aided the movement; and this with the increased value of land and the increase in the population gradually led all classes to attach themselves to particular places. The land revenue proper in 1820 amounted to Rs. 58,511.

Fifth settlement.

In his report on the quinquennial settlement in 1823, Mr. Traill states that the increase of Rs. 55,600 in the land-revenue of the Srínagar tahsíli must be regarded as very small when compared with Kumaon. He attributes this result to the causes already noted—the backward state of the communications and the small demand for agricultural products

[1] Writing in 1821 of the condition of the cultivating classes, Mr. Traill observes that, though such material progress had not been made as in Kumaon, the condition of the people had, however, been considerably ameliorated, and as their assessment was exceedingly low, they would doubtless gradually improve (14th March, 1821). In Nágpur the first settlement was made with the *sayánas*, the second with the village *padháns*.

in Garhwál[1]. The same remarks apply to the revision of settlement in the Chandpur tahsíl. The revision of this settlement for a second period of five years in the Srínagar tahsíl was made by Mr. Shore in 1829, who also remarks on the disadvantages under which the land-holders in Garhwál laboured from the want of a market for their produce.[2] The only portion in which much improvement was seen was parganah Talla Salán, and here the progress was entirely due to the breaking up of new lands in the strip of country lying at the foot of the hills. The net result of the revision was a land-revenue of Rs. 67,725. Up to 1826, the plains authorities never asked for an account of collections and arrears (*jama wásilbáki*) nor was any sent. Writing in 1828, Mr. Traill succinctly informs the Board that no *tak ávi* advances for agricultural improvements had ever been made, no remissions had become necessary and no balances had accrued, and at the few sales of assessed lands the rights of the holders had brought at public auction six times the annual revenue[3]. In 1825, Mr. Traill's salary was raised to Rs. 2,500 a month[4] and he was entrusted with the administration of Dehra Dún with Mr. Shore as Assistant, whose duty it was to take charge[5] of part of Srnagar tahsíli and to reside a certain portion of the year in the hills. Taluka Chandi (*q. v.*) was at the same time received from Moradabad. Sir R. Colquhoun was Assistant in Kumaun, and was succeeded by Captain Glover, and he again by Captain Corbett and Mr. Morley Smith. The Dún was separated from Garhwál in 1829, and in the course of time a new settlement came on in Garhwál. In some cases the same demand was continued until Mr. Batten's revision; in others a fresh settlement was made. In the Chandpur tahsíl the revision took place in 1832, with almost the same result as before. In some villages there was a small decrease, due to the desertion of cultivators on account of the death of two influential headmen in Lohba and in others there was a small

Sixth settlement.

Seventh and eighth settlements.

[1] To Board, dated 14th November, 1825; to Board, dated 6th March, 1826.
[2] To Board, dated 2nd January, 1829; to Board, dated 12th February, 1829.
[3] To Government, dated 26th July, 1826; to Board, dated 2nd September, 1828; to Board, dated 16th June, 1828. [4] From Government, dated 17th March, 1825. [5] Shore to Government, dated 7th January, 1824; to Traill, dated 26th February, 1824; from Government, dated 29th September, 1825. Transfer ordered, dated 8th December, 1825.

increase. The average of the land-revenue of Garhwál for the year immediately preceding Mr. Batten's settlement was Rs. 69,254. In 1837 Ensign Ramsay, of the 7th Native Infantry, came to Almora and was appointed Assistant Commissioner on the 28th August, 1840, in place of Captain Phillips, deceased. In 1838 we find Captain Huddleston in Garhwál and Mr. E. Thomas in Kumaon.

Ninth settlement.

The ninth settlement of the land revenue in Garhwál was made by Mr. Batten during the years 1838-41 for twenty years and marks a new departure in the fiscal history of the district. Now for the first time an attempt was made to form a record-of-rights and to formulate a reasonable system of assessment based on an estimation of the actual assets and not entirely on the imperfect guesses of the previous administration. The following table given by Mr. Batten exhibits the assessments of each settlement up to 1833 A. D., and the maximum demandable during the new one on the areas of each parganah as they then stood. Some differences will be found between these figures and those given in the correspondence of the period, due in a great measure to the imperfection of the earlier records and to the fact that villages were transferred from one fiscal sub-division to another, whilst others had fallen entirely waste and been excluded from the revenue-roll:—

Parganahs.	*Number of*		*Assessment in Rupees.*							
	Leases.	Villages.	1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.
Painkhanda ...	24	45	1,550	1,550	922	1,040	1,091	1,275	1,304	1,294
Badhán ...	167	321	3,671	4,250	4,657	5,781	6,422	6,821	6,948	6,788
Chandpur ...	198	457	5,092	5,916	6,432	7,850	8,991	9,345	9,425	9,190
Talla Salán ...	225	598	3,642	4,146	4,622	5,385	6,893	7,113	7,401	7,183
Nágpur ...	173	413	3,289	3,980	4,324	5,231	6,016	6,176	6,392	6,372
Ganga Salán ...	293	530	5,099	5,609	6,177	7,835	8,957	9,598	9,649	9,618
Bárahsyún ...	371	710	5,005	6,142	6,593	8,151	10,102	10,423	10,555	10,652
Dewalgarh ...	149	312	1,696	2,248	2.869	3,445	4,207	4,367	4,442	4,530
Chaundkot ...	119	241	2,222	2 603	2,909	3,269	3,881	3,910	4,052	4.065
Malla Salán ...	175	476	4,824	5,342	6,043	6,959	8,341	8,748	9,076	8,990
Total ...	1,894	4,103	35,990	41,781	45,548	54,996	64,901	67,7 5	69,254	68,682
Unsettled (Bhábar).	6	29	...	...	...	6	960	952	815	...
Waste (excluded)	16	28	84	102	114	130	116	116	129	...
Gúnth and sadábart.	...	602	...	...	...	...	...	...	...	...
Muáfi ...	...	6	...	...	...	...	...	...	...	...
GRAND TOTAL ..	1916	4768	36,074	41,883	45,662	55,132	65,977	68,794	70,198	68,682

The details of a ea of these settlements need not be given, as they were for the most part based on the roughest guesses and are now of no practical value.

Principles of assessment.

We must examine more closely the principles on which the assessment made by Mr. Batten was effected, as they formed the basis of his settlement in Kumaon and were to a great extent recognized by Mr. Beckett in the current settlement of both districts. We shall therefore give verbatim extracts from the records of this settlement, as the matter is too important to be dealt with otherwise. In his report on the settlement Mr. Batten prefaces his remarks thus:—

"On first taking charge of the Garhwāl parganahs in 1837 I had every thing to learn in regard to the peculiarities of the hill revenue system and everything to teach in regard to the revision of settlement required. It is difficult to say whether the Garhwál native officials were more astonished at the terms "Regulation IX of 1833," my own title of "Deputy Collector," and my confident proposition of a settlement for a period of 20 or 30 years being about to take place, than I myself was confounded at the circumstance of having to wander over more than 4,000 square miles in order to revise Rs. 70,000 of land-revenue which, I was told, Mr. Traill had, at the last occasion (owing to his unrivalled local knowledge), revised in less than a month, on the road between Hardwár and Badrináth, and that there was neither a village map to help me nor a record of area on which the slightest reliance could be placed."

Brought up in the plains system with its maps and records, it cannot be wondered that the work before Mr. Batten seemed insuperable, and it was not until he gave up the idea of forming village settlements on comparison of rates per fractions of area merely guessed at and saw that the elements of population, communications and nearness to markets which had formed the guides to his predecessor where here as important elements in the question of assessment as rates based on the quality of the land, did he come near any satisfactory conclusion and really commence to work. The revenue-roll forwarded by him for the sanction of Government was "founded on the past payments of each estate or set of estates, viewed in relation to its present state of prosperity, as shown by the state of cultivation; the number, character, and health of the inhabitants; the locality of their possession and their general resources, whether mercantile or agricultural, as fairly proved, according to the opinion of their influential neighbours, consulted in open *panchâyat* on the subject."

In explaining his inability to make the assessment on soil areas or on parganah circles Mr. Batten alludes to the existence of the physical fact that :—

"No one patti however small has one natural character for all its villages, and that in fact each village has a separate character, according to its height on the mountain side, vicinity to or distance from the forests ; situation on the mountain or in the valley and, above all, its climate as influenced by these circumstances. Neither are there, for the most part, sets of villages forming one line at one height and other sets forming other lines at other heights ; and though it would be easier to form a jamabandi on a list of mountain-top villages, upper slope, middle slope, lower slope, and valley villages respectively, still great difficulties would occur, without a regular survey, in fixing the real characters of the different lines. Moreover, moral obstacles would be found to separate the different villages of each line more rigidly even than the intervening precipices."

However acquiescent or indifferent the mass of the people might be to the distribution of the revenue-demand for short periods of assessment, it became quite another thing when twenty years were spoken of. Then each *padhán* began to question the right of other than the settlement officer to fix his share of the revenue burden, and the disputes and jealousy of the members of the *panchâyat* who had been accustomed to distribute the assessment arose to such a degree as to necessitate interference, although Mr. Traill, had he remained, might have been able to increase the land-revenue at this settlement. Mr. Batten was right in supposing that it was his first duty to examine into local assets and fix the demand on them only. At the conclusion of his last report in 1833 Mr. Traill recorded the revenue of the province as Rs. 2,34,510 per annum; in 1815 it was only Rs. 1,17,730.

"To his praise be it," writes Mr. Batten, "and also that he found the province, especially the Garhwál portion of it, fast falling into a depopulated desert owing to the tyranny of its late rulers, and that he left it a comparative paradise, with its inhabitants invoking blessings on his name and on that of the Government which he represented. The duty of his successors was, it appears to me, rather to consolidate the good that had already been done than to attempt with less ability to carry it out, an imitation of the only measure, which, if not originally of a doubtful character, had at least been pursued to its legitimate limits."

Mr. Batten's difficulties were increased by the practical absence of village accountants or patwáris in the administration and *phard-phants* or rent-rolls which in Garhwál owe their existence to him. He found it anything but easy to discover the

past and present payments of each particular village on which he might base his assessment; but succeeded at length in recording the fiscal history of each from the settlement of 1820 to the year 1840 A.D. His record contains a careful review of the past history of the village in regard to its *padhánz* and its changes from dependence on some other village (*dákhili*) to independence (*asli*); and again from its solitary position to its inclusion in other villages, and so light was the incidence of the revenue that recourse to farming leases, properly so called, was rarely found necessary during the course of the settlement.

Principles of administration.

The general rules observed in the assessment subject to modifications whenever local circumstances demanded it are thus formulated by Mr. Batten:—

"1. The consent of the majority of the share-holders in the appointment of a *padhán* remained, as in Mr. Traill's time, the general law.

2. This law took absolute effect in all cases where the existing *padhán* had held the appointment only during the period of the expired settlement, and his dismissal was allowed, merely on his failing to acquire a majority of votes.

3. When the *padhán* had held the office for more than one settlement, he was not removed without proof of fault or incapacity; and in the event of such proof being forthcoming, his nearest heir, or at all events some member of his family most agreeable to the villagers, was held to have the first claim to the appointment.

4. In large villages, the shareholders might elect two or more *padhánz*, each to manage his particular division of the estate, and to collect the Government revenue and his own dues from the share-holders belonging to his own particular party or clan. In small villages the election of more than one *padhán* was discouraged. The above rules apply to pure *bhayáchára* estates.

5. In villages where there were few or many shareholders, with the lands not actually divided amongst them, but cultivated by occupancy tenants (*kháyakars*) who were divided among the proprietors (not unfrequently according to their own selection of masters), that shareholder *padhán* who was found in possession of the appointment, or who could show the orders of the court upon the subject, was confirmed, and the claim of his brother shareholders to be admitted to engage with Government was not allowed. But the *padhán* in such cases was strictly forbidden to interfere with the cultivators of any share save his own, he being entitled to collect the quotas of Government revenue from the proprietary shareholders, the latter making their own arrangements for collecting their own quotas from the *kháyakars*.

6. The same rule held good in the case of coparcenary estates, where the lands were actually divided among the proprietors, and where, instead of the *kháyakar* or occupant, the lands might be found cultivated by *pahikásht* tenants or by *sirthán* (paying *sirthi*) renters.

7. The same rule applied to the case of whole sets of villages included in one lease; but with the villages divided among the several proprietors, except

where on investigation it might be found that among two or three málguzárs holding the lease of an estate, the villages placed under the management of each *co-padhán* were found not to correspond with the proprietary rights. In such instances the leases were remodelled and the villages distributed according to the actual possessions of the sharers; or in cases of doubt, and pending the decision of the civil court, according to the voice of the occupant villagers. These last rules apply purely to the cases of proprietary *málguzárs*, with reference to their position in regard to their brother shareholders.

8. The individual who on first redeeming a village from waste obtained the first lease was considered the sole proprietor thereof; and if he or his heirs were still in possession of the lands, he or they could not be removed from the office of *padhán* on the representation of the cultivators, or of the brethren who accompanied the *padhán* at the first settlement of the village, but who did not obtain the lease.

9. The claims to the property in, and management of, such *naudbád* villages set up by persons (not unfrequently kanúngos, patwáris and their relations) who obtained the first lease of the estate, but who, on failing to redeem the waste, or from any other reasons abandoned the site, and at subsequent settlements left the lease to be given to others, were at once rejected; unless under the most distinct proof of the claimant having continued uninterruptedly to receive some kind of proprietary due (*malikána*) from the villagers, and of the right of the latter to the office of *padhán* having been always considered resumable.

10. The claims of the *thokdár* to the office of *padhán* or proprietary right in *naudbád* lands recently brought under tillage, in opposition to the claim of the real clearer of the jungle, were at once dismissed, except he thoroughly proved that he himself had settled the cultivator on the lands and had incurred expense in their redemption.

11. Such *naudbád* villages (rarely paying more than five rupees a year) have been sometimes included as hamlets of the villages from which the original cultivator came, and in which his hereditary land existed; care being taken either to record the proprietor as one of the joint *padháns* of the whole *mahál*, or, if he did not require that privilege, to register him as the sole owner of the lands. Such were the rules in regard to *naudbád* villages.

12. As a general rule, all hamlets (*dákhili mauzas*) were kept with the parent (*asli*) villages to which they had stood attached uninterruptedly since the settlement in 1823, except where, by mutual consent, a separation was agreed upon.

13. No village was allowed a separate lease if the records showed that, continuously from 1815, or from the very first trace of its history, its union with some parent village was unbroken.

14. All villages having separate inhabited sites were allowed to engage separately with Government, merely on the expression of their wishes to this effect by the majority of the inhabitants, if their inclusion in another estate took place only at the last settlement, except a distinct decree of court had ordered their inclusion.

15. This rule equally applied to the case of non-proprietary communities occupying the land, but acknowledging some external superior; that is, if the *kháyakars* proved that, previous to the last settlement they had enjoyed the privilege of having their own village *padhán*, they were now permitted to elect one

under the same rules as those made for *bháyachára* villages which they often resemble in all but the name.

16. In the case of villages having remained as hamlets within some other since 1823 or 1828, their claims to a separate engagement were favourably considered, whenever inquiry proved that their original absorption was owing to some temporary cause now no longer existing, or to the prayer or consent of the inhabitants, and not to any binding decision of authority. If, however, owing to the conjunction of the estates, a great commingling of rights, interest and possessions had occurred, a separate lease was not granted, but the measure of appointing an additional *padhán* selected from among the villagers of the included hamlet was preferred. These rules were for the adjustment of cases relating to *asli* and *dákhili* villages.

17. The remuneration of *padháns*, whether in land or dues, or both, was left to the mutual agreement of the parties, and where they could not agree, to a decision by *panchávat*. The *padhánchári*, or *hak-padháni*, sometimes called '*jetaunda*' lands, were given over revenue free to the *málguzár*; but the quantity was fixed according to the actual facts, and not according to any arbitrary rate on the area of the whole village as formerly; for such allotment, though duly recorded in the periodical settlement books, always remained a dead letter.

18. Where no *hak-padháni* lands were found to exist, none were newly created, except by the consent of the villagers; but if the customary dues were found to be too small, a money equivalent of about one rupee for every sixteen rupees of Government revenue was recorded as the right of the *padhán*.

19. Owing to the republican character of the communities and the strong opposition made to all arbitrary measures, the enforcement of the last-mentioned right, by compelling the shareholders to sign an agreement against their own wishes, was not effected at the time of settlement against their own wishes, but was left to the course of law.

20. With the exception of general rules concerning the public service, the instalments of revenue and the management of "*anbanta*" or undivided, and "*lawáris*" or unowned lands and the rights of pasturage, the actual paper agreement taken from the shareholders corresponded exactly to their own system of administration and liabilities, and those discontented with the arrangements and not signing the deed were left to take their remedy or to be sued at law.

21. The villagers were not allowed to vote away or otherwise interfere with the actual possession of their proprietor *málguzár* acquired during his holding the office of *padhán* in the case of the said proprietor being now by the operation of the general rules ousted from the internal management of the village by the substitution of a village *padhán* in his place."

Boundary disputes.

Boundary disputes were found far less frequent than was expected: at least three-fourths were settled without the intervention of authority. In such cases, the compromises of the parties were sometimes separately filed, but in general the *chaknámah* showing the boundaries of each village was signed by the *padháns* of contiguous villages. In

Traill's book of 'great measurement' boundaries are given, but the reasons for assigning them, or the attestation by which they were entered, are not given. Actual demarcation of boundaries by stone platforms always took place whenever recourse to a legal settlement of disputes had been found necessary. But in the case of amicable agreements among themselves, such demarcation, though always recommended, was not insisted on. Indeed, on account of the villages being placed in such scattered situations, and being so numerous, it would have been very difficult to find officials adequate to superintend this kind of work, and the progress of it would undoubtedly have excited, in many instances, the very doubts and disputes which the measure was intended to guard against. In Garhwál mountains or natural objects are the usual boundaries. Mr. Batten writes :—

"At the time of settlement the Garhwális were distinctly given to understand that, even where no demarcation had been insisted on, the present determination of their respective boundaries was final." "Large portions of waste land, including whole ranges and their vast forests, have been included from olden time in the boundaries of adjacent villages, though not included in their recorded area. No interference with this nominal allotment of waste (except in the case of the Tarái lands) has been attempted at the present settlement of Garhwál. Such a division has been found useful in giving separate tracts for pasture for the cattle of different villages; but the inhabitants have been strictly forbidden, and the prohibition is particularized in the *padhán's* lease, and also in the several engagement papers signed by the shareholders of villages, from levying dues for the privilege of grazing within certain boundaries, unless the custom of paying and receiving them has been immemorial; the burden of the proof of this resting with those who demand such payments. Owing to the ignorance and retarded civilization of the communities and the absence of village accountants, the record of village administration must necessarily be imperfect. I therefore take this opportunity of asserting that the right of Government to all the forests and waste lands, not included in the assessable area of the estates, remains utterly unaffected by the inclusion of certain tracts within the boundaries of villages, and that no one has a right, merely on account of such inclusion, to demand payment for the use of pasture-grounds, or for the permission to cut timber or firewood. Neither does such inclusion interfere necessarily with the right of Government to accept offers for *naudbád* leases. But as ordered in the case of the Tarái forests, so in the hills (where, too, *zamíndari* claims are rare), the inhabitants of the villages most adjacent to the tract, or having it recorded within their boundary, should have the first refusal of all such leases; and no grant of the kind should be allowed within a certain distance of the cultivated and culturable waste lands of inhabited villages; the distance to be fixed by the district officer after receiving the report of the local patwári and kanúngo as to the position and extent of the proposed clearing. If proper attention is paid to the subject of

Rights in waste lands.

waste lands in Garhwál, and every application for the privilege of redeeming them be carefully considered and decided on with reference to the abovementioned declaration now made by the settlement officer, I am of opinion that the prosperity of Garhwál, and the advance of its population and agriculture, and finally of its revenue, will be for the future even more satisfactory than during the years that followed the expulsion of the Gorkhális and the return of the peasantry to their ancient homes. In every patti there are one or two villages, very thriving in character, and with surplus members who are available to become *pahikásht* cultivators of neighbouring estates. I have purposely, in the wilder districts (Chandpur, Badhán, Chaprakot, and Talla Salán, for instance) left such villages lowly assessed, in order to increase their wealth, and render them reservoirs, whence its currents can flow and fertilize the vicinity. Let the superfluous members of such communities be distinctly told that a good title will be given with the several patches of fine redeemable land in the forest, and that all fictitious claims to monopoly of the waste have now been repudiated as an usurpation of Government rights, and as only tending to injure the country by increasing the tigers and bears, and I am sure that the offers for new lands will increase tenfold."

The same principles governed Mr. Batten's assignment of the waste in Kumaon and were again formally announced at Mr. Beckett's revision of settlement in both Garhwál and Kumaon and are referred to again hereafter.

The following statement gives the statistics of area of Mr. Batten's settlement[1] :—

Parganahs.	Total area in *bísis*, exclusive of waste and forest.	*Revenue free.*	*Revenue land in bísis.*				Rate per *bísi* on total area assessable.			Rate per *bísi* on cultivation.		
		Guath and muáfi.	Cultivated.	Culturable waste.	Hak padháni.	Assessed total area.	Rs.	a.	p.	Rs.	a.	p.
Painkhanda ...	2,184	17	1.834	246	87	2,167	0	9	7	0	11	3
Badhán ...	13,500	356	7,544	5,062	538	13,144	0	8	3	0	14	9
Chandpur ...	12,789	80	9,331	2,737	641	12,709	0	11	7	0	15	9
Talla Salán ...	11,054	78	8.198	2,489	289	10,976	0	10	6	0	14	0
Nágpur ...	8,400	222	5,960	2,044	174	8,179	0	12	6	1	1	1
Ganga Salán ...	8,478	...	6,613	1,812	53	8,478	1	2	2	1	7	3
Bárahsyún ...	15,403	23	10,648	4,667	66	15,381	0	11	1	1	0	0
Dewalgarh ...	7,008	165	4,521	2,249	73	6,843	0	10	4	1	0	0
Chaundkot ...	3,190	35	2,562	528	64	3,154	1	4	7	1	9	4
Malla Salán ...	7,647	3	6,612	868	163	7,643	1	2	10	1	5	9
Total ...	89,653	979	63,823	22,702	2,148	88,674	0	12	4	1	1	2
Unsettled ...	488	...	40	488	...	488	...			...		
Waste ...	366	...	...	366	...	366	...			...		
Revenue-free	12,871	12,871	...	...	...	...	...			...		
Total ...	103,378	13,850	63,863	23,516	2,148	89,528	...			...		

[1] Confirmed by G. O. No. 2749, dated 31st December, 1842.

Review.

The following remarks on Mr. Batten's settlement of 1840 are taken from Mr. Beckett's report on its revision in 1864:—

"In 1840[1] the people generally were poor. There were no roads or markets, and the working classes were only gradually emerging from the state of serfdom in which they had been held by previous Governments. Since then their condition has materially improved, roads have been made, wild beasts have been reduced, extensive clearings have been effected, and all resort freely to the great marts at the foot of the hills at Rámnagar, Kotdwára, Dharon, and Patiya, where they exchange their own surplus produce for the commodities of the plains. During the past settlement every village had the power of increasing cultivation without being liable to extra revenue. They had further the right of pasturage and of using the spontaneous products within their boundaries and considering that every mile in the district, including the snow ranges, is supposed to be included within the boundary of some village, these privileges cannot be lightly estimated. No villages, however, had manorial rights which authorised them to dispose of timber, claim pasturage fees, or exclude their neighbours who from olden time had enjoyed the privilege of grazing their cattle, cutting wood, gathering leaves, &c. This system may be considered one of the chief causes of the increase of cultivation since 1840. Small hamlets have now become large villages, and villages have sprung up where cattle-sheds only existed formerly." Only 55 villages with an area of 856 *bísis*, or about 849 acres, were waste at the new settlement in 1864.

Tenth settlement.

The new settlement was effected between 1861 and 1864 by Mr. J. O'B. Beckett. The great feature of the new settlement is the regular field measurement as in the plains, a real cadastral survey. Every village in Garhwál, with the exception of those in the upper portion of the Bhotiya *mahâls*, has been measured and maps with indices to them have been prepared by native surveyors. Even at Mr. Batten's settlement no actual measurement ever took place, but every *thok* or local division of each estate was examined by the surveyor, and the number of *nális* in it was guessed at. The result was entered in the records, and the totals show the number of *bísis* of each class of land in each estate from *nazar andázi*, or guess from inspection, as the system was called. Naturally this system led to much concealment and the difference in the arable area at the two settlements is not altogether due to improvement, but in many cases to restitution. At Mr. Beckett's settlement the *bísi*

[1] See Settlement Report for 1864 (Allahabad, 1866).

of 4,800 square yards, or only forty less than an English acre, was retained as the standard of measurement. Actual survey operations commenced in 1856, but the mutiny put a stop to all operations from June, 1857 to December, 1858; but notwithstanding all stoppages and other difficulties, the total cost of survey and preparation of record-of-rights was only Rs. 74,005. The survey was finished in 1860 and the papers completed in 1861. The area measured was 149,379 bísis; therefore the cost per *bísi* is a little under eight annas. The cost of measurement in *gunth*, *muáfi* and *sadabart* holdings was defrayed by the parties to whom they belonged. All terraced land was measured and assessed, but only so much of other land as the villagers desired was measured, but was omitted in all cases from the assessment. The boundaries entered in the great demarcation book of 1823 and which had been upheld at the twenty years' settlement were recognized and remained unaltered. The only changes were in the boundaries of pattis and parganahs. These were altered to suit the extension of the system of patwáris so as to give to each the charge of a compact area. To effect this about 125 isolated villages were transferred to the pattis within which they were situate, but which formerly belonged to other distant pattis by reason of their being included in the *thokdári* of men who resided there. A large number of hamlets were converted into independent villages at the request of the proprietors, as in many instances the hamlet had become as large as the parent village.

Records.

After all the measurement papers had been completed a book was prepared showing the area, cultivation, *past fiscal history* and population. With the information thus obtained and after a personal inspection of each village, Mr. Beckett gave out the assessment in presence of the *padháns* and assembled landholders. In villages where the assets had been fraudulently concealed at previous settlements, a considerable increase was demanded, whilst in others, where cultivation had greatly increased, the assessment was at favourable rates to allow of the people gaining the full advantage from their industry; progressive assessments in such cases were frequently made.

Only three classes of land were recognized, irrigated (*sera*), first and second quality dry and these were entered in the village paper. The produce of irrigated is considered equal to double that of second-rate dry land, and that of first-class dry is as compared with second-class land, more valuable by one-third. In a favourable year this calculation may not correctly represent the yield of the three lands above specified; but considering that in dry seasons second-class land produces proportionately less than the good unirrigated land, and that land capable of being irrigated is so far independent of rains as to give, under unfavourable circumstances, even a fair crop, the estimate of the produce of these three qualities of land may be considered sound, though perhaps the irrigated land should have been assessed more highly." In fixing the jama, Mr. Beckett remarks that he took "into consideration all particulars affecting the present and the future prosperity of every village. Where a hill-side was steep, the terrace walls require extra labour. Where the women were in excess of the men; where the men were generally old or the male population consisted chiefly of boys; where the land was too extensive for the village community to cultivate, and its isolated position put it beyond the reach of non-resident cultivators (*pahikashts*); where the vicinity of heavy jungle rendered the crops liable to destruction by bears and deer and the cattle were likely to suffer from tigers—these and other reasons induced him, in many instances, to assess land far below the average rate. Hitherto no charge had ever been made for water-mills. As water-mills are very profitable, and usually the property of private individuals who monopolize the water and claim rights in it, it was thought only fair that the proprietor, who realized profits, should pay a small rent. Where mills belonged to the village community and no charge for grinding was levied, these were not assessed. In private water-mills a charge of one-sixteenth of the grain ground is made. A mill ought to grind at least two maunds in 24 hours; so that the proprietor would get five sers a day. The mill commonly used can be put up for a trifle; in fact the cost of it would be repaid by the receipts of one month. As the tax was new to the people only one rupee was charged for a mill liable to any interruption, and two rupees on those which are at constant work throughout the year. The rates at Srinagar, Rúdrprayág, and some places on the pilgrim road are a little higher."

Cesses, &c.

Sir Henry Ramsay remarks:—"As compared with preceding settlements the present one has eliminated to a great degree from its calculations the item *of previous demand*: in the highly cultivated and agriculturally prosperous part of the country, the bearing of acreage on population, and *vice versâ*, was a main item of calculation, and in the less populous tracts, or where agricultural assets were found to be subordinate to trading and other casual capabilities, the census, combined with an estimate of the character of the population, afforded the main basis of the revenue assessment. In the Bhot tract of Mala Painkhanda the revenue may be almost strictly called a poll-tax. A more fair mode of taxation for that tract, and the similar tracts in Kumaun proper, might be on a correct enumeration of herds of cattle and flocks of sheep; but Mr. Beckett, with all his personal activity and local knowledge, found that

concealment of such assets was possible to a large extent, and that the counting of the profit-earning and revenue-yielding human item was an easier task."

Cesses had never before been levied, but the people had been taught to expect a more elaborate record and the machinery for its preparation and custody had to be provided for by an extension of the patwári system and the allotment of smaller areas. Every patwári now is a trained surveyor and the civil local referee in all land disputes. The numbers were increased to 44, paid at ten rupees a month from a four per cent. cess on the land-revenue. Owing to the increase in the postal service, the duty of carrying the mails which lay with the inhabitants of the villages along the principal lines of road had become exceedingly onerous. Those villages along the main lines of communication had to carry a mail every day if they received no aid from those more distant and where they did receive aid, men had to come from considerable distances. Personal service was accordingly abolished and a cess of three per cent. on the revenue provided for a paid staff of runners and distributed the duty equally over every village. Schools in the interior were unknown and a three per cent. cess was also established for this purpose and gave 58 schools to the district. Personal service for the repair of roads has always been required and that system has been retained, care being taken to effect the repairs when the people are relieved of the more pressing duties in the fields. The general result in the despatch of reports and receipt of orders in police cases has been strongly marked, and, in addition, every village can without charge communicate by letter with any part of the district. The revenue is paid in four instalments, three falling on the autumn and one on the spring crop. The *padhán* always pays in the first instance, whether he has been paid by the other proprietors or not, and he then recovers from them, if necessary, by a summary suit. It is found that if any proprietor's share be sold, it is usually at the suit of some creditor who has lent money to meet the Government demand. In the last few years, there have been only 251 transfers by gift or sale among the 31,118 recorded proprietors in Garhwál. Sale for arrears of revenue is unknown.

The following table gives all the information about the current settlement that appears necessary :—

Pargaṇah.	Number of		Assessable area in acres.			Land-revenue.	Population.	Rate per acre on				Mills.	
	Estates.	Villages.	1823 estimate.	1859.				Total area.	Cultivation.			Number.	Rent.
				Cultivated.	Waste.								
			Rs.			Rs.		As. p.	Rs. a. p.				Rs.
Bárahsyún ...	506	648	16,194	25,726	3,471	16,644	33,551	9 9	0 11 1			125	75
Badhán ...	225	374	14,171	7,364	1,514	6,803	16,529	13 3	1 0 1			405	668
Chándpur ...	296	414	12,924	12,667	1,760	10,170	22,380	11 5	0 13 1			399	481
Chaundkot ...	184	287	4,025	10,580	881	7,136	15,548	10 4	0 11 3			38	10
Dewalgarh ...	269	392	9,144	9,464	871	8,005	18,644	13 3	0 14 5			154	237
Dasolí ...	102	142	4,269	3,364	1,552	...	7,100	10 9	0 15 9			139	229
Nágpur ...	373	594	12,457	13,622	1,983	9,288	28,068	13 3	0 15 2			374	520
Painkhanda ...	46	76	3,453	2,452	690	1,649	5,523	13 11	0 14 5			102	213
Ganga Salán ...	395	499	8,697	20,965	1,312	13,843	29,472	13 6	1 1 4			145	60
Malla Salán ...	285	411	7,500	14,212	884	11,611	29,039	10 0	0 10 8			86	26
Talla Salán ...	435	580	11,528	14,334	1,153	11,192	24,705	12 7	0 13 5			41	4
Total ...	3,116	4,417	1,04,362	134,747	16,073	96,311	230,639	11 10	0 12 9			2,008	2,523
Measured total,	...	4,395	1,02,921	133,935	15,444	95,546	228,295	11 5	0 12 9			2,008	2,523
Waste ...	...	57	856	...	...	...	79	...	...			...	...
Forest ...	...	93	1,569	...	...	...	800	..	..			30	120
GRAND TOTAL ...	3,116	4,567	1,06,787	...	...	96,311	231,788	11 5	0 12 9			2,038	2,643

The present Government demand amounts to Rs. 96,311 and Rs. 3,626 from the *saddábart* pattis. The settlement expires in 1890-91.

The following table will show how this settlement has worked, as it gives a statement of demand, collection and balance of land-revenue on the roll from 1872-73 to 1882-83 :—

Year.	Demand.	Collection.	Balance.	Particulars of Balance.				Percentage of real balance to demand.
				Real.			Nominal.	
				In train of liquidation.	Doubtful.	Irrecoverable.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1872-73 ...	95,579	94,315	1,264	1,244	20	...	...	1·32
1873-74 ...	95,579	95,111	468	468	...	...	...	·49
1874-75 ...	95,579	94,714	865	720	...	145	...	·91
1875-76 ...	95,559	95,314	245	245	...	...	...	·25
1876-77 ...	95,559	94,779	780	740	...	...	40	·77
1877-78 ...	96,186	90,576	5,610	5,610	...	...	...	5·83
1878-79 ...	96,186	89,931	6,255	6,255	...	...	...	6·49
1879-80 ...	96,176	94,085	2,091	2,035	...	...	56	2 11
1880-81 ...	96,140	94,522	1,618	1,566	...	43	9	1·67
1881-82 ...	96,122	95,271	851	751	52	...	48	·82
1882-83 ...	96,074	95,086	988	951	...	...	37	·99

Revenue-free.

The tenures, village officers, such as sayánas, kamíns, padháns, and patwáris are described under Kumaon and need not be referred to here The revenue-free grants, however, require some separate notice. In the year 1868 San., corresponding to 1811-12 A.D., Bakshi Dasarath Khatri and Kázi Bahádur Bhandári were deputed from Nepál to make the settlement of Garhwál and resumed nearly all the estates held free of revenue for which no sufficient authority was forthcoming and granted to those who were confirmed in their possessions certificates to that effect. The entire province was then assigned for the support of the military, and no grant therefore of a subsequent date, unless originating from or confirmed by the court of Nepál, could have been held sufficient to alienate lands in such an assignment. It was accordingly ruled that all such invalid grants should be resumed, and Mr. Traill was directed to inquire into each case and report the result to Government. Certain sums were also paid to various temples and individuals from the proceeds of the transit tax at Srínagar; claims to a participation in these dues were also examined into and decided on the same basis.[2] The general result showed 501 villages held in *gúnth* free of revenue for the support of temples and 27 as *muáfi* by individuals. At the close of 1840, the *muáfi* holdings comprised 163 *bísis* and the *gúnth* lands amounted to 13,651 *bísis* of culturable land, of which 943 *bísis* formed parts of villages which paid revenue to Government and included the *sadábart* assignments. The rights then established were confirmed formally by Government,[3] and at the recent settlement the inquiry was finally closed by an examination of the claims to hold small patches of *gúnth* free of revenue and all who could prove their claims were confirmed in possession—

The following table shows the revenue-free holdings as at present recognised :—

[1] To Government, dated 19th April, 1816; to Government, dated 22nd March, 1816; to Government, dated 26th March, 1816; from Government, dated 20th April, 1816; to Government, dated 20th May, 1816; from Government, dated 11th June, 1816; to Government, dated 23rd May, 1816; to Government, dated 25th July, 1816; from Government, dated 10th August, 1816. [2] From Traill, dated 7th March, 1816; to Government, dated 15th March, 1816; to Government, dated 19th April, 1816; from Government, dated 18th May, 1816; to Government, dated 8th May, 1816; from Government, dated 25th May, 1816. [3] 2044 of 18th October, 1859.

Gánth grantees.	Villages.	*Area in bísis.*		*Nominal assessment in rupees.*	
		1823.	1863.	Former.	Present.
Badrináth ...	262	4,785	4,372	3,777	3,943
Kedárnáth ..	54	775	967	948	857
Kamaleswar ...	14	232	267	186	248
Lachhmináráyán ...	5	102	126	77	109
Raghunáth ...	8	108	166	67	107
Tungnáth ...	9	133	189	82	123
Gopeswar ...	6	222	254	232	243
Small grants ...	165	1,449	1,783	668	1,506
Waste ...	12	39	...	...	...
Total ...	535	7,845	8,074	6,037	7,136

Muáfi grantees.	*Area in bísis.*		*Nominal assessment.*	
	1823.	1863.	Former.	Present.
J. Henry	62	168	18	115
Balmukand	35	59	40	56
Amar Singh	78	92	32	36
Chintamani	20	21	25	16
Small	21	25	...	40
Waste	10	...	...	...
Total ...	226	365	115	263

Sadábart.

Besides the endowments assigned for the support of temples are the *sadábart* grants or endowments for the support of pilgrims, the most important of which had their origin not many years before the introduction of British rule. In 1854 *san.*, corresponding to 1797 A.D., the revenues of parganah Katoli in Kumaon, assessed in 1816 at Rs. 1,173, were devoted by Rája Ran Bahádur Sáh of Nepál to supplying grain to pilgrims proceeding to Badrináth and the proceeds were distributed at the dharmsála built by Chauntra Rudrbír Sáh at Pípalkoti. In 1870 *san.* (1813 A.D.) a further grant was made of

the revenues of parganah Dasoli in Garhwál by Rája Ráj Indra Bikram Sáh of Nepál to the temple of Badrináth, valued at Rs. 1,315 in 1816, which were distributed at the temple itself to the pilgrims visiting it. For the same purpose the revenues of parganah Mahryúri in Kumaon, valued at Rs. 1,006 in 1816, were assigned to the support of pilgrims proceeding to Kedárnáth by Rája Ran Bahádur Sáh in the name of his wife Kant Bhati in 1797 A.D., and were distributed at Wála Patan in the dharmsála built there by Chauntra Bam Sáh. Parganahs Painkhanda, Bámsu and Maikhanda, assessed at Rs. 1,126 in 1816, were similarly assigned in one grant by Rája Ráj Indra Bikram Sáh in 1813 A.D., and the proceeds were distributed at the dharmsála built by Iliya Bái, aunt of Jaswant Ráo Holkar, at Chaupatta below Tunganáth and at Patogarh. The total value of the assignments was therefore Rs. 4,620.

The grants[1] were addressed to the occupiers of the assigned lands, directing them to pay the dues of Government according to the settlement to the officers entrusted with the administration of the charity, who were on the other hand warned not to exact more than the fixed demand entered in the grants. The object of these assignments was to afford to every pilgrim who chose to demand the benefit of the charity a certain amount of food at five specified places on the roads to the temples. Minute instructions were given as to the quantity each pilgrim could claim and rules were laid for the administration of the charities and the remuneration of the persons appointed to superintend their distribution. It was also ordered that any surplus funds that might remain should be suffered to accumulate in order to meet the contingency of a larger number of pilgrims visiting the temples in any particular year. In 1816, the management of these charities rested with the Rawals or chief priests of the temples. A grant of precisely similar character of the village of Kholi and seven other villages not far from Srínagar was made at a much more remote period by the Rájas of Garhwál; the exact date is not known, but it was confirmed by the Nepálese and recognised by our Government. These villages were

[1] To Government, dated 21st March, 1816; from Government, dated 20th April, 1816; to Government, dated 23rd May, 1816; to Mr. Fraser, dated 8th June, 1816.

assessed at Rs. 237 in 1816. At the British occupation the source of income at Kedárnáth and Badrináth consisted of (*a*) revenue from *sadábart* funds, (*b*) offerings of pilgrims at the shrine itself, (*c*) rent in money and kind from *gúnth* lands, and (*d*) the property found on the bodies of persons dying in the neighbourhood of the temples.

Management.

The officers of Government never interfered with the last three sources of income. Mr. Traill, however, entirely separated the administration of the *sadábart* endowment from the temple funds and soon found that the assigned revenue of Badrináth considerably exceeded the expenditure on the two charities at Pípalkoti and Joshimath. In 1816, he recommended to Government that the surplus proceeds of the *sadábart* assignments of both the Kedárnáth and Badrináth temples should be devoted to the formation and repair of good roads to both the temples, the suffering and actual loss of life to the pilgrims being represented as very great. The Government sanction was withheld on the grounds of offence to religious prejudices, and it was at the same time directed that no misappropriation of the assigned revenues should be permitted. Sítarám, the Ráwal or head-priest of Bádrináth, died in 1817 and was succeeded by Náráyan Bhát, during whose administration the incapacity and malversation of the temple officials induced Mr. Traill to take the management of their temporal affairs into his own hands. He appointed superintendents to manage the doles, and seeing that the clause directing the surplus funds of short years should be accumulated for the extra expenditure of the years when pilgrims arrived in large numbers had fallen into abeyance, and that no advantage was likely to accrue from its revival, determined to apply the surplus funds to the improvement of the roads to the sacred places for which he had in vain solicited sanction. Accordingly, having for a few years allowed the surplus funds to accumulate, in 1827-28 he commenced, through the landholders, the road[1] from Hardwár to Badrináth, laying out the greater portion of it himself, and for this purpose undergoing dangers that few men would care to encounter. The work was completed in about seven years,

[1] To Board, dated 18th September, 1829.

and in the three years following, that is up to 1835, roads were also constructed from Rudrprayág to Kedárnáth, from Ukhimath to Chimoli and from Karnprayág through Chandpur and Lohba to Rohilkhand. These roads are about 300 miles in length and were constructed at a cost of Rs. 25,000. In 1840, the income of the fund amounted to Rs. 2,685 and the expenditure on the pilgrim doles to Rs. 1,197, leaving a balance of Rs. 1,488 for the road fund, besides an accumulated surplus of Rs. 4,600 intended for widening the roads.

Mr. Traill, though he deserved the highest praise from philanthrophists for his energy in constructing the pilgrim road, rather strangely left off his labour at the very point where a road was most wanted, *viz.*, between Joshimath and the Níti pass, and almost totally neglected all roads between Almora and Garhwál, Srinagar and Najíbabad and other important parts of the country. His successors endeavoured to rectify these omissions, not however without having recourse to the corvée system, to which Traill was probably averse and not without reason. In 1840, the road to the Níti pass was commenced and other roads continued to be constructed until Mr. Lushington in 1841 again handed over the entire funds and their administration to the Ráwals.[1]

In 1840, Dr. Playfair[2] visited the temples and found the condition of the pilgrims miserable in the extreme. Disease was exceedingly common amongst them, due in a great measure to want of food, old age, previous sickness and the effects of long continued travel. To this last cause must be attributed the prevalence of running sores in the legs and feet, which were much aggravated by the bites of the venomous flies so common in the hills. No medical attendance was available and many who had no friends to nurse and attend them during illness perished by the way. Mr. Batten made some attempts to succour the pilgrims by distributing medicines through the vaccinators. In a letter of his written in 1840 he showed that there were no funds available for supplying medical attendance, as the surplus revenue from the Badrináth road fund was only sufficient for the purpose to which it was applied, and

[1] To Government, dated 24th January, 1842; to Government, dated 1st March, 1842. [2] To Medical Board, dated 9th January, 1840; from Huddleston to Commissioner, dated 10th March, 1840; from Government, dated 8th April, 1840; from Government, dated 29th April, 1840.

Government in consequence sanctioned the establishment of one native doctor.

Khola charity.

The Khola charities were administered as under the Native Government by a Superintendent up to 1830 and the distribution was made at Srínagar. In that year the Hardwár road being completed to Deoprayág, it was thought advisable to remove the distribution to Sítakoti, a place between Srinagar and Deoprayág. A house for the Superintendent and for storing the grain was there built. As there were two charities still distributed at Srínagar, the Khola *sadábart* was quite superfluous there. An investigation into the receipts and disbursements led to a discovery of several abuses. A new assessment was in consequence made on a view of the actual assets; this settlement after a partial modification was finally concluded with the consent of landholders at the following rates; —wheat 326 *dúns*, rice 42, manduwa 42 and cash Rs. 85 *kachcha*. Taking the *dún* at 32 seers, the total money value of the grain and cash was about Rs. 300. The pilgrims were entitled to receive going and returning 1½lb of flour, a pice each of *ghí* and salt and half a pound of dál or split pulse.[1] This arrangement was abolished in 1851 and the proceeds were handed over to the Srínagar hospital.

Kedárnáth charity.

The Kedárnáth endowments in 1830 yielded a revenue of Rs. 2,843 as follows:—

Patti Mahryuri,	Rs. 1,342,	distributed at	Nála Patan.
„ Parkandi	„ 753	„	Chobta.
„ Bámsu	„ 518	„	Patagarh.
„ Maikhanda	„ 230	„	Chobta.

Mr. Traill left the management of the revenues of these charities entirely in the hands of the Ráwal, who seems to have been a man of sense and resource anxious to gain a name and unrestricted by a greedy set of followers. He devoted the surplus funds to rebuilding the temples at Kedárnáth, Trijogi, Ukhimath and Madhmaheswar.[2] This may be due to the fact that the constitution of the priesthood at Kedárnáth resembles more that of a monastery of which the Ráwal is merely the head and several

[1] Rs. 10,000 were invested in Government securities for the purpose of feeding the pilgrims to Badrináth; to Government, dated 28th January, 1833.

[2] Batten in 1840 writes that the Ráwal is not obliged to send in any stated or periodical lists of his (1) sadábart, (2) gúnth, (3) offerings.

of the members possess nearly the same power, while at Badrináth the Brahmans are absolute and their head without control. Under the orders of Government the management of these charities was transferred to the local agency in 1851.

Local committee.

Regarding Mr. Traill's proceedings Mr. (now Sir John) Strachey, in his report in 1851 on these funds, shows that they were not opposed to the orders of Government and that "his (Mr. Traill's) management of the charities was not only in accordance with the spirit of the endowments wisely and liberally interpreted, but it conferred on the district a benefit the importance of which it is difficult to estimate too highly. I do not overstate my opinion when I say that Garhwál has derived more advantage from the construction by Mr. Traill and his successors of these roads than from all the other measures put together that have been taken for the improvement of the country since the introduction of the British Government to the present time. I may add that the manner in which Mr. Traill expended the surplus *saddábart* funds has contributed perhaps more than anything else that he did to preserve the feelings of admiration and respect with which his name is remembered in these hills." In his report[1] to Government the same officer proposed that the funds should be again taken under Government superintendence, and that the surplus be devoted to the useful works contemplated by the spirit of the grants. Government on this issued orders to the local officers to assume charge of all these charitable grants to be managed as a trust in the spirit of the Local Agency Act (Regulation XIX. of 1810). The net proceeds of the lands to be disbursed by the same officers for the benefit of pilgrims proceeding to the shrines in Garhwál: first for feeding indigent pilgrims; secondly, the establishment of an hospital at Srínagar and gradually of dispensaries along the line of march; thirdly, the repair of the roads leading to the shrines most visited.[2]

[1] No. 14, dated 13th May, 1850; replied to by G. O. No. 3107 of 8th October, 1850. [2] The rules introduced in 1853 were modified by G. O. No. 1069 A., dated 25th September, 1862, on account of the disgraceful management of the temple at Badrináth. It was then decreed that the ancient custom should be revived by which the Rája of Tíhri selected and appointed the chief officials of the temple. "This will tend more than anything else to sever the connection of the European officers with the temple, to impose a real responsibility on the Rawal and the Lekhwár and put a stop to the wholesale depredation now practised. The abolition of the office of Wazír is also authorised." The local committee, however, administer the *saddábart* funds as before.

Since then, the revenues have been devoted to these purposes and dispensaries have been erected at suitable spots on the pilgrim road, the lowest being at Srinagar, and are so situated that a pilgrim is never more than two marches from a dispensary from the time he leaves Srínagar till he again descends to the plains. Rest-houses have also been constructed at every ten or twelve miles along the entire route. These valuable institutions have saved a great many lives. Before their erection sick pilgrims were left by their friends, whose means did not permit of their halting, to die. A great many of them got swollen legs from the bite of a small fly; now they are treated and fed at the dispensaries, and on recovery many, instead of going on to Badrináth, return at once to the plains. Before these branch dispensaries were instituted, these unhappy creatures, unable to move from swollen legs, were left to die of starvation. The land revenue of the current settlement on the *sadábart* villages amounted to Rs. 10,013. In Garhwál there are villages in Bárabsyún assessed at Rs. 420 and in Dewalgarh at Rs. 189: then parganah Dasoli assessed at Rs. 2,155 and pattis Bámsu, Parkandi and Maikhanda assessed at Rs. 1,449; total Rs. 4,213. In Kumaon the Kotauli and Mahryúri pattis give an aggregate revenue of Rs. 5,800.

Tea. Tea cultivation is the only industry in Garhwál under European superintendence. Some account of the origin and history[1] of tea-planting has been given elsewhere, and under KUMAON will be found the only statistics of outturn that we possess. The following table gives a list of the tea-plantations in existence at the current settlement with some statistics as to tenure and area:—'A.' signifies those held free of revenue under the grant rules: 'B.' those held free of revenue under the "waste-land and fee-simple rules:" 'C.' was sold by auction, and 'D.' comprises the old Government tea-gardens sold in fee-simple and including Chapra, Marwára, Chalangaon, Pokhri and Ráwatgaon-Dúíla.

[1] Gaz. X., 887.

On village tenure.

Patti.	Village.	Holder.	Area in bísis.		Land revenue.
			B.	a	Rs.
Pindarwár (Badhán).	Chiringa ...	Talwári Tea Co.,	34	8	32
Ditto ...	Chiringa *gánth*,	Ditto ...	19	13	20
Lohba (Chándpur).	Ghandyál ...	Silkot Tea Co.,	73	11	37
Ditto ...	Silkot ...	Ditto ...	39	0	25
Ditto ...	Chhapáli ...	Ditto ...	36	13	24
Ditto ...	Kuriya ...	Ditto ...	23	11	13
Ditto ...	Rohira ...	Ditto ...	77	10	35
Ditto ...	Ríthiya ...	J. A. S. Richards.	24	14	22
Sili (Chándpur),	Samán ...	Major Mayne...	7	13	10
Choprakot (Chándpur).	Museti ...	J. Henry ...	62	15	35
Ditto ...	Rámikesain ...	Ditto ...	8	12	5
Dharmdyálsyún (Malla, Salún).	Chopta ...	Ditto ...	118	11	82
		Total ...	528	8	340

Revenue-free.

Patti.	Grant.	Grantee.	Area in acres.			Purchase-money.
			A.	r.	p.	Rs.
Pindarwár (Badhán).	Gwáldam ...	Tulwari Tea Co.,	594	0	26	1,530A
Ditto ...	Talwári ...	Ditto ...	290	1	20	731A
Ditto ...	Kauriya ...	Ditto ...	720	3	24	1,802B
Ditto ...	Sartoli ...	Ditto ...	1,288	0	20	3,220B
Ditto ...	Binatoli ...	C. R. Troup ...	517	3	0	1,294B
Lohba ...	Matkota-khál,	Silkot Tea Co.,	536	0	32	1,371A
Ditto ...	Satoli ...	J. A. S. Richards.	175	2	7	449A
Ditto ...	Diwáli ...	Ditto ...	705	3	18	1,778A
Ditto ...	Korakhet, ...	Major R. Mayne,	1,214	1	4	3,059A
Sili ...	Benitál ...	Capt. E. Gawne,	1,549	3	0	3,903A
Choprakot ...	Barsár ...	J. Henry ...	504	2	32	1,262B
Kandársyún ...	Andrupa ...	Major R. Mayne,	792	0	16	1,980C
Ditto ...	Gadoli ...	J. Henry ...	1,001	3	24	1,00,000D
		Total ...	9,891	6	24	1,22,379

The daftaris or kánúngos were leading members of the local administration under the Rájas of Garhwál. Rámanand and Dharni filled the office previous to the *Gorkhálí* conquest, but were convicted of a traitorous correspondence with the enemy and were executed by the Rája. During the *Gorkhálí* occupation the office of kánúngo was conferred on Gajádhar and Kishan Datt, the sons, and Kishnanand and Harakpati, the brothers, of Ráma and Dharni, and a grant of lands assessed at Rs. 1,500 Gk. a year was made for their support. On the British occupation, the grant was resumed in accordance with our practice of remunerating the servants of Government by money payments and a regular salary of Rs. 31 a month was allowed instead. The kánúngos of Garhwál are still four in number and are of the Khanduri caste. In 1829, the kánúngos were invested[1] with power to try personal civil suits up to Rs. 25, but in 1837 separate munsifs were appointed[2] and the question of the re-organisation of the entire civil administration coming forward, this power was taken away from them and they were res-

Kánúngos.

of customary dues to the *thokdár* in his capacity of sharer or to the other sharers in the village. Speaking generally, all are well to do. They can all make enough from their land to pay the rent and keep themselves and their families in food and clothing and even to put by money. The proof of their being well off is that it is a most difficult matter to procure free labour, the fact being that the people do not require to work at any extra occupation to support themselves. Tenants with permanent rights (*kháyakars*) have their lands on terms little inferior to those of a proprietor and frequently they are far better off than the proprietor himself. Indeed, the worst off of this last class are those who have most of their land held by permanent tenants who only pay them a small proprietary due (*malikána*). Tenants-at-will are chiefly small proprietors and permanent tenants who have not sufficient land for their own wants, or the menials of the village. Of late years everything has, in spite of indifferent seasons, been in favour of the cultivating community. The price of grain has risen greatly, many [illegible] risen and

that [illegible] of money. For tea plantations, [illegible] settlers ha
points to look to in taking up lands. Land destined for a tea-garden sho
easy and near communication to the plains: should be near a populous
should have a favourable aspect and a good water-supply and timber for
boxes and grazing land should be available in the vicinity, as the cost of
of timber alone would amount to a considerable sum. There are not ma
of waste land which supply all these requirements, while some that have t
for reasons to be hereafter noted unattainable.

Waste for grazing.

There are numerous places, however, which would suit a sheep or cattle-b
whose only difficulty would be wild animals,
this is one that might be easily overcome. Th
stretches of jungle which would afford pasturage to thousands of sheep,
water is abundant, and the climate cool and healthy; and now that European t
are stationed in these hills, sheep-breeding ought to prove remunerative. So
the waste-lands are being taken up for villages, but as hill men are averse t
tling far from their fellows, and only extend cultivation by small degrees as
numbers increase, it must be many years before the area of useful waste s
visible signs of decrease. Under the village tenure which we found obtaining
we took possession of the hills, each village had a certain defined boundary, ex
ing in many instances for miles and miles into dense jungles and to the t
ridges. These boundaries have never been altered by us, and though Gover
is the absolute lord of the soil and has reserved to it certain rights beyon
cultivated and measured area, there is some difficulty in dealing with land, t
waste within a village boundary. For the people adhere tenaciously to the
boundaries, and look upon any attempt to abridge them as an interference
their rights, and on any one who steps in as an enemy and interloper. This
ing has caused much annoyance to and disputes with the planters, who c
understand the community of grazing rights existing among the people a
them, as all grazing lands, except when measured, are common. This questi
not up to the present given much trouble, but as cattle increase, it will be a
of dispute, and will have to be provided for. During the hot weather many
pasture lands, further removed from all habitation, are used for feeding he
buffaloes and cattle which are driven up there, and housed in rough huts m
branches thinly roofed with grass. These places are called *karaks*, and the
spot will be used year after year by the same herd. A few men attend o
herd, and they collect the milk and turn it into ghi or clarified butter for
sale. It has never been thought worth while to levy any grazing fees: indee
expense of levying would almost equal the receipts, while it would be also in
ing with an old-established right. Still there is ample room for persons
would wish to rent farms for sheep or cattle-breeding. The most extensive v
lands lie on either side of the Dádu-ke-toli range the Badhangarh range,
pattis Chaprakot, Chauthan Iriakot and also in the Dhánpur range. In all
places there are large tracts of waste land, though not many fit for tea plant
owing to their distance from the plains. Mr. Beckett in his Garhwál settl
report (1865) gives a list of sites available for tea plantations.

ave given as far as possible in the words of the writers a tolerably com-
unt of the rights in land and to land and have shown that Government
ner of all but the area assessed to revenue. I now append Sir Henry Ram-
rks on the whole subject, and his thirty years' experience is worthy of
. He writes:—

of waste-lands.

"settlement report and statements now under submission (Mr. Beckett's settlement in 1864) prove satisfactorily, in my opinion, that Mr. Batten acted wisely in not interfering with village boundaries, which had been recognised by Mr. Traill and carefully d; seeing that the existence of those boundaries, previous to the 20 years' ent, had not been found incompatible with an immense increase of cultiva- nd with a doubling of the land revenue; and it being now acknowledged that, the period of the 20 years' settlement, the agricultural prosperity of the y has immensely increased, enabling also the succeeding settlement officer to e the Government fisc in a noticeable degree. The question arises—Did the the attention of Government having been drawn to its own rights in the lands, by the application of European speculators for lands on which to he great staple product, tea, necessitate or render advisable the actual de- ion of separate village boundaries, within which no new settlement could e for the benefit of the State or the public at the revision now under re- I decidedly think not. If the tea-planting question had never been raised, vious from the past fiscal history of the province, and from all which has o been placed on record, that the tendency of actual demarcated limitation extension of tillage and clearing, would be to retard such agricultural pro- among the present occupants of the soil. But the plantation question hav- en raised, has such a new element of value and importance been introduced e country as to overbalance all the advantages of non-interference,—that is, ving the rights of the State and the people commingled and undivided hout the greater part of the mountain tracts? Or does its introduction the enforced separation of those rights everywhere and in all localities? certainly not. The real difference between the old naubad lease and the ple grant of recent years is that the former created a new mahal, produc- f future revenue to the State, and of proprietary right and profit to the of the waste, but left the use of the adjacent forest in the same state as ; while the latter necessitates a far more careful preliminary examination as previously required of all the existing circumstances of the neighbour- and when that investigation has been completed and has resulted in favour vernment, as represented by the applicant, places the latter in full and ex- possession of a demarcated tract. The existence of this difference, I con- does not justify a revolution in the whole agricultural status of the pro- On the contrary, I feel confident that, in accordance with the clearly and y expressed orders of the Secretary of State in his despatch of 1862, and of vernor-General's Rules of 1861, the new state of things renders it more er incumbent on the local officers to take care that colonization does not

applied for—leaving it to the appellate authority (if referred to) t
whether, in any case, a village or a neighbourhood has been too hastily
to have claimed any tract beyond its real requirements for extension
or forest use; or whether a wise discretion has been used in giving a fiel
industry to the introducer of foreign capital, the creator of valuable sta
the employer of remunerated labour.

In all the discussions which have hitherto taken place one fact has,
been too much lost sight of, *viz.*, that the demarcation of a reasonable and
priate boundary for a village holding a nominal right to what may be co
an unreasonable and improper extent of waste-land does not dispose of the
question of forest use. Many mountain tracts included within the nomina
daries of particular villages are used by a whole neighbourhood of villages
purposes of pasture, collecting of leaves, &c. This is more particularly the
Central Kumaon (Pali and Barahmandal) and in lower Garhwál, including
portant parganahs of Barahsyun and Chaundkot. I hope I have said en
prove that Mr. Beckett acted with judgment in following that part of his
cessor's policy which left Mr. Traill's recorded boundaries undisturbed, and
abstained from useless and perhaps mischievous demarcation, which would
involved an enormous expenditure of money, time, and trouble.[1] At the sa
it is clear that care has been taken by the settlement officer to ascertain and
for the benefit of Government and the public, all known sites of waste vill
the district, and all sites which, in his opinion, were suitable and availa
tea-planting.

Concluding remarks on waste-lands.

It is highly probable that disappointment may be felt at the promulga
the fact that large tracts of country with go
in the vicinity of markets, and with facilities of
labour, are not available for English settlers; and that, as I have heard it ex
the latter can only get the "leavings of the Paháris." But in reality such
pointment can only be felt by those who have used their imagination rath
their reason, or who have omitted to consult the most ordinary sources of
ation. The central and lower Himalayan parganahs are not howling wilde
but have been for ages occupied by an industrious agricultural population.
people are in possession of those tracts which are easiest of access and whi
the least difficult and most profitable returns to industry. The country s
pied is therefore not available for foreign colonization; even if its climat
suitable, which it is not. The tracts of country lying between these riche
and valleys, and the untillable waste of the more inaccessible heights, are tho
which the old occupants have hitherto been gradually extending their posse
and it is a new thing for them to be told that such extension is an usurpat
State rights, and that they ought to give place to the dominant stranger,
because, to the latter, the climate and situation are suitable and pleasant.
surprise of the inhabitants, at the expectations of foreign settlers, is ce
quite as strong as the disappointment of the latter at not finding the bes

[1] As this duty could only be performed by the settlement officer himself, and would have occupied his time for many years.

as an obstacle, and where the comparative sparseness of the population left many good sites available for settlers, the introduction of capital mand for labour will go hand in hand; and while the settler will benefit ee and unencumbered field for his money and industry, the peasant of a few terraces in the fully cultivated and overcrowded villages of upied tracts will be too glad to procure at some distant but not quite plantation a cash return for his labour, less burdensomely acquired, and ain than his hire as a coolie at Nynee Tal or Mussoorie. Already more thousand Paháris are drawing monthly wages in Katyúr in Kumaon, pattis described by Mr. Batten in 1846 as waste, and *therefore* as the ailable for the experiment of tea-growing. I hope that his similar ion for Gangoli and Sira in Kumaon, and such comparatively waste ay be realized in due time; but before tea-planting can be placed on a d sound footing, the dream of obtaining from government, on fee-simple rofitable estates in the heart of the occupied country must be abandoned.

Beckett rightly designates the general character of his own settlement as , in accordance with the actual status of affairs. In Garhwál revenue are almost convertible terms, and the great mass of the cultivators may idered as proprietors of the plots of ground which they cultivate, liable the payment of their quota of the government demand, plus the fee ey contribute to their padhán for the trouble and risk of collection. uperior rights, carrying with them the realization of rent, or, in its nes representing rent as formerly existing, these, under the revised nents which have been gradually anticipated during the period of the settlement, have been substituted by a *malikána* never exceeding 20 per the government demand as a fixed and certain amount collected under ; and thus a vast amount of intestine disputes and vexatious litigation n got rid of. I will not say that all the proprietor landlords are content new arrangement, but there has been no noticeable opposition to a hich the advance of events and the increasing intelligence and means ltivating classes must sooner or later have brought about. Even to the sayánas or sharers' suits for the realization of miscellaneous dues, such letailed in Mr. Batten's reports were becoming highly inconvenient and ; and it has for some time been felt by both payers and receivers that as coming when a fixed rate of cash percentage must be substituted for breasts of goats, fees of three-anna pieces (*timashas*), and other . In the case of the *thokdars* Mr. Beckett took the greatest pains to t the spirit of the government orders of 1856, and to ascertain and decide e examination of reliable records, who amongst the holders of *thokdari* ere parties really entitled; by prescriptive right, to be considered proprie- periors, who were only the creation of Mr. Traill's later years, or of his r's, brought into existence by the supposed necessities of village police ow no longer required at their hands. In regard to the inferior or nomi- erior tenants of the soil, the *khayakar* of the hills stands out as the repre-

number of the[1] holdings. But there is no dou[illegible] ences have also caused large increase in the cultivated area, and as there is still plenty of waste-land, they are not likely to have any prejudicial effect on the people for a long time to come. A single plough in this district is supposed to cultivate three acres of land. The implements and cattle in aid are worth about sixty rupees. A holding of five acres in extent would require two ploughs, and after deducting all expenses it ought in an average season to bring in eighty rupees as profits or something like seven rupees a month. The peasantry are not as a rule in debt; when they are so it has generally been incurred in purchasing wives for themselves and their sons, or in purchasing or redeeming some hereditary land to prevent an outsider getting it. There is no such thing as a landless unskilled labourer in the district. Every man who has no land follows some trade or combines his craft with cultivation as tenant-at-will. Women and children are largely employed in field labour, but they work for their own families and not for wages. The women do all the field work except ploughing and sowing and the children weed, reap and tend the cattle.

Prices in Garhwál per rupee in sers of 80 tolas (2·057 lb avd.) 'S' stands for Srínagar and 'K' for Koldwára.

Article.	Native name.	1840.		1850.		1860.		1865.		1868.		1869.	
		S.	K.	S.	K.	S.	K.	S.	K.	S.	K.	S.	K.
Rice, 1st ...	*Basmati* ...	20	16	11½	14½	11⅜	12	7½	9½	7⅜	7⅜	8⅜	7½
„ 2nd ...	*Bakuwa* ...	50	26	22½	20	21½	19⅝	11½	12½	12⅜	12⅜	14½	9
„ 3rd ...	*Rasiya* ...	55	24	25	22	23	21	12¼	13	13¼	13¼	15	10
Wheat, white,	*Daudkhani,*	58	24	23	23	35	20½	13	18	20	17½	21	12
„ red ...	*Lalgehun*...	60	25	24½	24	36¾	20	13¾	18⅜	21½	18	22	12
Barley ...	*Jau* ...	70	30	50	25	36	22	27½	24⅜	18½	26½	26½	16
Millet ...	*Manduwa,*	70	50	48	40	40	28	21	24	19⅜	23⅜	28½	16
Buckwheat...	*Ogal* ...	37½	40	29¾	28	24¾	22	13⅜	18⅜	11⅜	16½	15¼	13
Rape ...	*Lahi* ...	40	42	30	37	25	28	18	22	16	24	14	17
Pulse ...	*Urd* ...	32½	45	25	35	23¼	30	12½	16½	11½	17⅜	13¼	10
Onions ...	*Pyaj* ...	80	...	70	...	65	...	58	...	50	...	45	...
Potatos ...	*Alu* ...	60	41	50	34	45	33	32	28	28	18	24	14

(The prices in 1868 to 1870 are those of famine seasons).

At the late settlement cultivated land was classed as irrigated, dry first quality dry second quality. In fixing the rate on these the first quality dry was assessed one-third higher and the irrigated twice as much as the second quality dr

[1] For the purposes of the Income-tax Act of 1870 there were only 75 incom in Garhwál above Rs. 500 a year, and the total tax was Rs. 1,939. The populati is essentially agricultural and there is little trade and few usurers, the peo being well enough off to be able to do without these luxuries.

y, still it has to be left fallow oftener than other kinds of soil. Unirrigated first quality is the most useful soil; it produces everything but tobacco and the better kinds of rice; and its productive powers are often not inferior to that of irrigated land, while it has to be left fallow, but every fourth season, still the crops are always liable to damage by drought, and where manure is not freely given, the soil becomes poor and unproductive. Unirrigated second quality consists of the small fields (khets) on the edges of the better land, or where the hill side is very steep or stony, it is generally sown with barley and the several millets and buckwheat. If manured a little or after the land has been left fallow, it gives a fair return in a favourable season; but in a bad season it hardly repays the labor expended on it.

Temporary cultivation.

There is one other kind of cultivation called *khil* or *kanala*, meaning temporary cultivation; for this the people cut down a strip of jungle on the hill-side, burn the felled timber on it, have one or two crops off it, and then leave it waste for ten years. They usually sow the hardier kinds of grain, such as buckwheat, amaranthus, and *manduwa* on such land; but in parts, near the plains, *til* is also sown and yields largely; this land is of course unassessed.

Rents.

Rents are generally paid in money; prior to the current settlement, a large proportion, notably those assessed on temple lands, were paid in kind, but almost all have been commuted for cash. The only tenants who commonly pay in kind are tenants-at-will. The *rabi* varies from one-third to one-fourth of the crops realised, but it is usually the latter. Manuring is largely practised; the people procure manure from their own cattle-sheds and by bringing leaves from the jungles; it cannot be purchased and costs them nothing beyond the labour. Irrigation is practised in all the low valleys and where water is easily procured. The only labour is the making of the water channel, and this is given by the whole village community: so that irrigation really costs very little. In the Bhábar khám estate, where Government has paid for making the small canals, the water-rate is two annas per *kachcha* bigha or twelve annas per acre. Lands are usually left fallow after three crops have been taken off them, but only for one season. This even is not always done, as after a bad season the people cultivate all they can for the following crops. The

Rotation of crops.

rotation of crops is as follows; first rice, then *wheat*, and lastly *manduwa*; after which the land is left fallow till the next rice crop. This system is seldom varied except by substituting barley for wheat, and some other millet or a pulse for *manduwa*. The lands of a village are always divided into two *sarbs*, one called the wheat *sarb*, the other the rice *sarb*, and these are changed every second year.

Waste-lands.

Though there is an immense amount of waste-land in Garhwál, it may be held that almost all tracts having an elevation exceeding 8,000 feet above the level of the sea are useless except for pasture, while a great portion of their area is too precipitous even for grazing. There are very few villages so high as 8,000 feet, while for tea-planting, it is considered that, though the flavour of the tea may be finer, plants grown above 6,500

sentative of the *kadimi kashthar* of the plains, with this essential difference, that n no instance does he own his position to any legislative enactment like the Rent Act of the plains, and that, to the best of my belief, he has not been created by the spontaneous proceedings of the local authorities. If any one will take the trouble to consult the data recorded by Mr. Traill a very few years after the introduction of British rule, they will find that the right of cultivating occupancy remained with the descendants of former grantees (*thatwans*), even where the *thát* or grant of proprietary right had been conferred by the sovereign power on new superiors; and that, in all cases, whether of such descendants or of ordinary cultivators continuing from father to son in the undisturbed use of their ploughs, the contracted state of the labouring population, as compared with the extent of arable land, has always been sure to secure the most favourable terms to the occupant tenants of the soil. Practically, therefore, the latter, if found to be rightfully claimants of the title *khayakar*, whether as ex-*thatwans* or as uninterfered with and necessary cultivators, are kept in possession so long as they pay their quotas of the government revenue, plus a small amount of *malikána*, including *malguzari* fees, though they so far differ from their *thatwan* co-villagers, inasmuch as they cannot alienate this holding. *Pahikasht* cultivators for the most part cultivate in villages adjacent to their homes on the most favourable terms, and indeed they may almost be considered as proprietary occupants of the soil which they cultivate, except that they cannot claim it as belonging to their own village, and of course cannot alienate it. In Garhwál, the *sirthan* tenant corresponds with the tenant-at-will of the plains, and, as a general rule, holds, by an annual written agreement. The *sirthan* of one share-holder in a village is often found to be a co-sharer himself, who has spare time to devote to work beyond his own (perhaps too few) fields, and the whole arrangement of proprietary and non-proprietary holding is thoroughly understood by the people themselves. Moreover, the settlement officer has not recorded such temporary holdings in the record of revenue and rent liabilities. Under these circumstances, suits similar to those triable under the Rent Acts in the plains are not likely to arise in Garhwál; and if they do occur, can be disposed of in the easiest manner as matters of simple contract between man and man; while a reference to the village record (a copy of which, so far as it affects himself, is eagerly taken and zealously preserved by every villager) at once enables the revenue officer to dispose of every case.

The following statement prepared by Colonel Garstin summarizes the status of the land-holders at four different periods: showing the number of estates on the revenue-roll, the land-revenue, the number of registered proprietors paying revenue direct to government and the average revenue paid by each:—

	1815-16.	1850-51.	1860-61.	1870-71.
Number of estates ...	3,451	4,103	4,109	4,417
Number of registered sharers,	20,784	26,934.	27,853	30,856
Land-revenue paid (exclusive of lands not on the revenue-roll) ...	Rs. a. p. 35,990 0 0	Rs. a. p. 68,644 0 0	Rs. a. p. 68,180 0 0	Rs. a. p. 95,584 0 0
Average land-revenue paid by each estate ...	10 6 10	16 11 8	16 9 5	21 10 2
Average by each registered sharer or proprietor ...	1 11 8	2 8 9	2 7 2	3 1 6

Excise.

On taking over Garhwál, the excise on spirits existed only in Srínagar and brought in a revenue of only Rs. 91 a year in 1814, and that on soap, tobacco and *charas* gave a revenue of Rs. 365 *Gorkhálí* or Rs. 274 *Farukhabadi*. In 1821 the receipts from spirit farms amounted to only Rs. 91 and in 1823 to Rs. 114. The statistics for the earlier years may be shown thus:—

	Spirits.	*Drugs.*		*Spirits.*	*Drugs.*		*Spirits.*	*Drugs.*
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.
1824-25 ...	137	68	1827-28 ...	370	68	1830-31 ...	730	68
1825-26 ...	342	68	1828-29 ...	325	68	1832-33 ...	732	68
1826-27 ...	319	68	1829-30 ...	774	57	1833-34 ...	804	52

In 1881 the gross receipts amounted to Rs. 1,886 and in 1882 to Rs. 1,767 on account of spirits and drugs. The farming system is in force and in 1882 the license to manufacture and sell country spirits brought in Rs. 1,215; the license to sell drugs yielded Rs. 450, and opium Rs. 100. The absence of cantonments renders the increase in this district very much less than in Kumaun. As a rule the people of the hills do not indulge in intoxicating liqours, and it should be in the future as it has been in the past the object of the administration to limit the number of shops for the sale of liquor. Their extension can only induce the people to take to the practice and must for every reason be deprecated. The Bhotiyas make their own spirits, but neither sell it nor induce other people to drink, and they may be left alone as they are practically beyond the operations of the excise.

Civil accounts.

In 1815 the revenue amounted to Rs. 35,990, and the civil expenditure to Rs. 10,130. In 1850-51 the receipts were Rs. 79,954 and the expenditure amounted to Rs. 22,849. The receipts from imperial sources such as land revenue, excise, stamps, law and justice, &c., amounted to Rs. 82,229 in 1860-61 and Rs. 1,13,673 in 1870-71 and the expenditure to Rs. 27,626 and Rs. 36,888 respectively. The receipts from local funds amounted to Rs. 8,539 in 1860-61 and to Rs. 19,947 in 1870-71 and the expenditure to Rs. 8,080 and Rs. 19,818 respectively.

Garhwál Bhábar, a narrow strip of land seldom more than three miles in breadth, lying between the foot of the hills and the Rám-

nagar and Hardwár road which here forms the boundary between Garhwál and Bijnor and which in places comes up to the hills. The whole Bhábar is included within the forest boundary, but two patches at Kohdwára and on the banks of the Málin stream have been reclaimed and are under direct management (*kháṁ tahsíl*). Another block towards the Ganges has been added and the cultivation much extended. The whole is irrigated and pays the cultivator well, but the climate is still malarious to a degree. The present income is a fluctuating one, but when all the land fit for irrigation and cultivation is taken up it should yield a considerable revenue. The forest trees are of the commoner kind except *sisu*. The *sál* does not flourish out in the plains, but does best in the *dúns* or valleys within the outer range. The highest revenue is derived from bambus, which are of a superior quality: next comes *bábar* grass (*Eriophorum comosum*) for rope-making. The Garhwál Bhábar, as well as the portion of it in the Bijnor district, is not near so unhealthy as that of Kumaon. The forest is not so dense, and there is very little water and marshy land. In addition there is no Tarái to speak of. Cultivation, too, is rapidly pushing up from the plains towards the hills, and in a few years, with the exception of the part preserved by the Forest Department and the tract above Chandi reserved for the Rurki Workshops, there will be no Bhábar left.

Gár-toh or Gár-tod (upper 'Gár),' also called Gár-yársa or the summer abode ('*yár*,' 'heat' or 'summer'), to distinguish it from Gár-gunsa, the winter abode ('*gun*' 'cold' or 'winter'), situate two or three days' journey down the river further to the north-west, is situate on the left bank of the southern branch of the Indus in north latitude 31°-44′-4″ and east longitude 80°-23′-33″, at an elevation of 14,250 feet above the level of the sea. It is the headquarters of the two Gárpuns who govern Nári-Khorsum. There are three divisions in Tibet: Eastern Tibet or Kham-yul, the people of which are Kham-pas; middle Tibet or Bod-yul, comprising the provinces of U and Tsang (hence U-tsang) called Bod-pas or Pot-pas, and western Tibet or Nári (mNáris), the people of whic hare known as Nári-pas and which is further divided into Mang-yul, Ṇári-Khorsum and Már-yul. To the north is the Hor or Sok country, the people being known as Hor-pas or Brok-pas, or Dok-pas, the car-

riers from the salt and borax mines to the marts of Nári. In Nári there were several small principalities, such as Guge, Puráng and Kangri, but these are now subject to the two Gárpuns of upper and lower Gár. These act jointly together and form a board for the administration of civil affairs called '*Lankya*.' The senior is styled *Urku-gung*, abbreviated usually to *U-gung* and the junior is called *Urku-wa*, written *U-wuh*; the *Urgu-ma* and *Urgu-ya* of Mr. Traill. They have each a *Sarishtadár* or *Zungnirh*, and these two, as registrars, sometimes sit as a court in petty cases. Besides these, there are *duniks* or writers and *nirbas* or agents. Under the Gárpuns are Zungpuns or governors of districts and Makhpuns or headmen of circles or groups of villages. In Nári there are four Zungpuns: —(1) at Ruduk in charge of Ládák: (2) at Tsáparang in Guge in charge of Bisáhr, Nilang and Mána; (3) at Dába in Guge in charge of Níti and Juhár; and (4) in Puráng in charge of the Dárma and Byáns frontiers and Humla in Nepál. Both Gárpuns and Zungpuns come from Lhása and have a tenure of office for three years, after which they are relieved and return to give an account of their stewardship. Besides these officers, there is a commissioner of revenue in charge of the tea monopoly called Lung-chung-pun,[1] whose duty it is to assess the amount of tea to be taken by each district at a fixed price and a contractor for the gold mines called Sár-pun who manages those mines. The salt and borax mines are managed by the Gárpuns. A further sub-division is into thirteen Punkágs, each under its local chief called Pun; those of the Puráng valley being styled Makhpuns. Gár-yársa is only occupied during the summer, when the whole population live in tents, numbering some 200 belonging to traders. In Gár-gunsa there are three large and eight small houses, the people here, too, for the most part living in tents. The Tibetans call India generally Monyul and the people Mon, a male Mon-pa and a female Mon-mo: Ḱyunam is Kumaon, Galdiya is Garhwál, and Chongsa the Nilang valley.

Gaulá, Gola, or **Gárigi,** a stream which takes its rise on the southern slopes of the ridge to the south of Dol in Dolphát and extreme north of patti Chaubhaínsi, in north latitude 29°-27′-30″ and east longitude 79°-46′-40″. It has a course generally south to Ḱhánsu, whence it turns westward, forming the boundary of

[1] This is apparently the old name for the Guge district above Kumaon and Garhwál.

Chaugadh to its junction with the stream from Malwa Tál. It thence turns south again and afterwards north by west, taking in on its right bank the overflow of Naukuchiya and Bhím Tál and at Ránibág the surplus waters of the Sát Tál and Naini Tál brought down in the Baliya. Leaving the hills at Kathgodám, it flows by Haldwáni to the Tarái, where it becomes known as the Kichaha, and eventually joins the Rámganga on the left bank. The Gaula is largely utilised for irrigation purposes and supplies water to most of the clearances around and near Haldwáni. In times of flood it becomes a violent and dangerous torrent changing its stream through a wide bed.

Ghurdursyun, a patti of parganah Dewalgarh in British Garhwál, is bounded on the north by pattis Katholsyún and Bidolsyún of the same parganah; on the east, by patti Choprakot of parganah Chandpur, on the west by parganah Bárahsyún and on the south by parganah Chaundkot. The patwári of Kandarsyún residing in Khandgaon collects the land-revenue of this patti. There is a school at Bisalad. The patti is intersected by the western Nyár, along the left bank of which the road to Srínagar runs as far as Kota, where it crosses the river and passes up the valley of the Kotagadh, which forms the northern half of the patti as far as the Mandikhál. The southern half is drained by the Pen-gadh and other small tributaries of the Nyár which flow into it on the left side.

Girgaon, a halting-place in patti Tallades of parganah Juhár in Kumaon, on the route by Bágeswar to Milam and the Untadhúra pass into Húndes, is distant eight miles from Tejam or Tejambugr, 69 miles from Almora and 12 miles from Munsyári. About two and a half hours' march from Jalath the Kálamundi pass from Munsyári is reached by a bad road, impracticable for riding. On approaching the pass, the rock changes from gneiss to mica slate, which rock continues some way down and it then changes to gneiss with beds of white talc slate. After this a second ridge is passed by the Betúla-ghát before reaching Girgaon, a village with about eighty acres of arable land and a population of one hundred. The survey pillar near the village has an elevation of 6,568 feet above the level of the sea.

Girthi, a river of the extreme north-eastern portion of parganah Painkhanda in Garhwál, takes its rise on the western slopes

of the Kingri-bingri range separating it from Tibet. Its northern branch is also known as the Doldunkhar and proceeds from the glacier below the Kingri-bingri pass and its southern as the Lanka which rises at the northern *dakhna* or foot of the Unta-dhúra pass. Both unite near Topidhúnga to form the Girthi, which further receives several small streams on its left bank and on its right bank the Kio-gadh from Laphkel. Thence the course is nearly due west to its confluence with the Dhauli on its left bank a little below the village of Kúrkúti in north latitude 30° 43′ and east longitude 79°-55′-30.″ There was formerly a village and lead mine in the glen of the Girthi about twelve miles from Malári, but both are now deserted. The lead ore is a galena with considerable admixture of silver. A difficult track leads from Malári through the Girthi valley to the Unta-dhúra pass and Milam, but it is seldom attempted, though not particularly high. Major Smyth is the only European who has crossed it, but only in favourable seasons is it ever used even by the Bhotiyas, as it is particularly subject to avalanches.

Giwar Talla, a patti of parganah Páli Pachhaon in Kumaon, is bounded on the north by patti Lohba of Garhwál ; on the west, by patti Malla Chaukot ; on the south, by pattis Talla Giwár and Walla Giwár, and on the east, by patti Katyúr Bichhla. This patti was formed from Giwár with 46 villages received from Malla Chaukot at the recent settlement. From the latter was taken the portion lying to the west of the Nagar peak in the valley of the Kálírau-gadh. It occupies the right bank of the Rámganga river by Ganái and the valley of the Khatsár stream rising in the Panuwa-khál pass into Garhwál. There is a traveller's bungalow at Ganái, through which passes the roads from Almora to Páori and Lohba. There are copper mines at Kotyarha and iron mines at Baungarh, Muduwadhár, and Rámpur. The statistics of the Palla, Walla, and Talla pattis may be shown thus :—

Giwar.	Assessable area in bisis.				Assessment in rupees.				Population.	
	Total.	Cultivated.		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Palla ...	2,914	554	1,807	553	1,149	1,530	1,789	3,402	2,332	2,101
Walla ...	3,812	84	3,059	668	1,772	2,483	2,624	3,552	2,893	2,498
Talla ...	2,293	676	1,268	349	1,057	1,759	1,820	3,450	1,995	1,652

The incidence of the land-tax on the assessable cultivation per acre in the Palla patti is Re. 1-7-1 : in the Walla patti is Re. 1-2-1 and in the Talla patti is Re. 1-12-5 : the incidence on the total assessable area in the same pattis is Re. 1-2-8, Re. 0-14-11 and Rs. 1-8-1 per acre respectively. The patwári resides at Jamaniya, where there is, a school.

Giwár Walla, a patti of Páli Pachhâon in Kumaon, is bounded on the north, by patti Palla Giwár; on the west, by the same patti and Talla Giwár ; on the south, by pattis Talla and Malla Dora, and on the east, by patti Kairárau. This patti was formed from Giwár at the recent settlement and comprises the valley of the Kotlár, a tributary of the Rámganga, joining it on the left bank at Ganái. The road to Páori and Lohba by Ganái passes to the north-west through the valley. (See GANAI.) To the north-east a chain of lofty hills commencing in Dúnagiri (7,346 feet) and continued by Sakhaldevi, Manbhudevi (6,932) and Godi on the Rámganga separates the Kotlár valley from that containing the quaint and picturesque lake of Turág. The principal places are Chiteli with its slate and iron mines, the iron mines of Burulgaon, Godi, Oleni, Siroli, Sadigaon and Tilgurha. The statistics are given under GIWÁR TALLA. The important mines of iron in this and the Palla patti were leased in 1872-73 at Rs. 360 a year. The patwári resides at Chaukhutiya, where there is a school.

Giwar Palla, a patti of parganah Pálí Pachhâon in Kumaon, is bounded on the north, by pattis Malla Chaukot and Talla Giwár ; on the west, by the former patti, Bichhla Chaukot, and Palla Chaukot ; on the east by Walla Giwár and on the south, by Walla Nayán and Talla Dora. This patti was separated from Giwár at the recent settlement. The Rámganga flows through the centre of the patti from north to south and is crossed by the road from Dwárahát to Páori by Kadurai and Másí. The statistics will be found under Giwár Talla. The patwári resides at Másí, where there is a school. The old patti had four natural divisions, Gári-Giwár, containing Turág Tál : the valley of the Kotlár : the valley of the Khatsár or plain (*sár*) of criminals (*khát*), to which, like Katyúr and Chaukám, criminals were banished because of its unhealthiness : and Giwár, where the iron mines are.

Golam La, an encamping-ground in patti Byáns and parganah Dárma of the Kumaon district on the route to the Lunpiya Dhúra pass. It is marked by a large gneiss rock standing out of the hill-side overhanging the confluence of the Nájan-gár with the Káli, which is from 1,500 to 2,000 feet below; the declivity almost precipitous. Elevation above the sea 8,000 feet; the village of Thin or the opposite side of the river is about the same height. Hence onwards a descent to the Nájan-gár crossed by a *sanga* or spar-bridge and across the Malpa-gár to the next camping-ground, Lámári, a small level piece of ground close to the Káli at the same elevation as Golám-Lá.

Gopeswar, a village on the route between Nandprayág and Ukhimath in patti Malla Nágpur of British Garhwál, 9 miles from Nandprayág and 10 miles from Chaupatta or Chobta on the left bank of the Balásúti stream, a tributary of the Alaknanda. It is the winter residence of the ráwal or chief priest of Rudrnáth, one of the five Kedár or temples dedicated to Siva and possesses a fine old temple of its own surrounded by a court-yard, repaired by Umr Singh Thápa, a Gorkháli general, in the first decade of the present century. In the court-yard is a trident[1] of iron with a shaft of the same material which bears on it an inscription and has also letters inlaid with copper, but now much defaced by time. The purport of so much as is intelligible represents the arrival of one Aneka Malla, "an illustrious prince who having extended his conquests on all sides, bringing together upon this holy spot sacred to Mahádeva, under the emblem of a pillar, the very sovereigns of the world whom his powers had overcome, and thus having re-established this same pillar of victory, he acquired reputation. It is a pious act to raise up a worthy foe when he has been humbled." It has been suggested that the name Anek Malla may probably be connected with the Anya Malla of the Neverit dynasty in Nepál, who flourished in the twelfth century. Similar tridents exist at Bárahát in Native Garhwál and in Nepál. (See J. A. S. Ben. V. 485.) There is a great brass image of a Pon Raja in the temple at Jágeswar in Kumaon which local tradition asserts to be one with the Rája who erected the trident at Gopeswar.

[1] See Gaz. XI. 511.

Gori or **Goriganga**[1] or white river, one of the most considerable feeders of the Káli river, takes its rise in patti Malla Juhár of parganah Juhár in Kumaon in north latitude 30°-28′ and east longitude 80°-10′. Properly speaking there are two branches, that known as the Ganka or Gankha on the east and the Gori proper on the west. The latter rises in an immense glacier lying to the north-west of Milam, and divided from the glaciers giving rise to the Ganka by a considerable ridge running south from the Unta-Dhura ridge, by which the pass of that name leads to Hundes. This glacier was visited by Weller, and is thus described by him :—

The river comes out in a small impetuous stream, at the foot of apparently a mass of dirt and gravel, some 300 feet high, shaped like a half-moon. This is in reality a mass of dark-coloured ice (bottle-green colour), extending westward to a great distance, and covered with stones and fragments of rock, which in fact form a succession of small hills. I went along this scene of desolation for a long space, but could not nearly reach the end. Here and there were circular and irregularly-shaped craters (as it were), from 50 to 500 feet diameter at top, and some of them 150 feet deep. The ice was frequently visible on the sides ; and at the bottom was a dirty sea-green-coloured pool of water, apparently very deep. Into one of these craters I rolled down numerous large stones from off the edge, and in a few seconds huge masses of ice rose from below, seemingly detached by the agitation of the water. The bases of the hills on either side and frequently far up their faces are one succession of landslips.

He adds that the source of the Gori was formerly opposite Milam, and a Bhotiya told him that within his memory the snow-bed had receded some three to four hundred yards in forty years.

Webb found the stream at its exit from the glacier twenty-eight feet wide and four deep, and from its coldness and great rapidity altogether unfordable. There is no passage up the gorge beyond the glacier. The elevation above the sea of the point of emergence from the glacier is, by barometer, 11,543 feet. The great accumulation of snow in the gorge results from the fall of avalanches, which Webb observed to cause in a few days an increase in the thickness of the stratum of upwards of forty feet. Hence, notwithstanding the extraordinary rapidity of the stream, resulting from a fall in some parts of its bed of 800 feet per mile, the river is overlaid with deep snow for a considerable distance below its source. It first takes a south-easterly direction for four miles, to its confluence with the Gankha a little below Milam. Though the Gankha has greater length of course by about twelve or fourteen miles and a greater volume of water at all seasons than the Gori, the latter gives its name to the united stream. For some miles below the confluence, the stream varies in width from twelve to twenty yards, and runs with such extraordinary violence and rapidity, as in many places

[1] The Gauri of Traill ; Goree of Webb, Weller, and Manson ; Goree Ganga of Garden; Gaura, Gauri, or Gaurani of Wilford, who identifies it with the Agoranis of Megasthenes ; Stat. Acc. Kum., 140 ; J. A. S. Ben. 1842, page 110 ; *ibid* XI, 1157 ; As. Res. XIV, 410.

to resemble a cascade tumbling down a rugged face of rocks; in others it is hid below a continuous mass of ice and snow. In forty miles, the declivity of the waterway is 6,599 feet, or upwards of 160 in a mile. It receives on the right and left many torrents, none very considerable; and, continuing its course in a southerly direction, so as totally to run about sixty miles, falls into the Káli on the right bank immediately below Askot in north latitude 29°-45′-8″ and east longitude 80°-25′, at an elevation of 2,127 feet above the level of the sea and with a breadth of about 110 feet.

The road by Burphu and Tola to Rálam passes down the left bank as far as Tola. Along the right bank is the ordinary road by Ganagarh, Martoli, and Laspa to Bágeswar. The principal tributaries on the left bank are the Rálam river, the Madhkaní and the Seragarh, and on the right bank the Jamiyagarh. The Gori passes through Munsiyári with its numerous Bhotiya villages, but below it enters into a precipitous tract, which barely allows of the track from Munsiyári to Askot. Some distance up the glen of the Gori river above Milam is the Sunchi-kund, a small sheet of water held in great repute as a place of pilgrimage. It consists of a small triangular-shaped piece of greenish water perhaps 100 yards by 80 in area. The fissures in the banks of the Gori here are narrow instead of being crater-like; and the ice where visible is more of the colour of snow. On the south side large accumulations of gravel are to be seen in the openings between the hills; and generally the sides of the hills in the vicinity do not appear so much cut up by landslips as lower down. (*Weller.*)

Goriphát, a patti or sub-division of parganah Juhár in Kumaun, was created at the current settlement. It comprises, as its name implies, that portion of the old patti Talla Juhár that lies along the Gori river. It contains 57 estates separately assessed, comprising 106 villages with a population at settlement of 2,713 souls (1,263 females). The principal villages are Barniyagaon, Sela-Surai, Dhapa, Jainti, Nagariya, Ringu, Jalath, Surhing, and Wolthi: see further article BHOTIYA MAHÁLS. The patwári usually resides in Rathi: there is a school in Sela.

Guín-Pani, a halting-place on the road between Páori and Kohdwára, 12 miles 4 furlongs 11 poles from Puriya-Ke-Manda and 10 miles 6 furlongs 33 poles from Dalmisain, the next stage, is situate about four miles from the left bank of the Nyár river in patti Karaundu Palla of parganah Ganga Salán

in Garhwál. The route to Dalmisain from Guín-Pani ascends by the Dwári-khál pass and descends to the village of Diusa on the head-waters of the Kohdwára river, 2 miles 5 furlongs 29 poles. Thence by the Dhárgadh bridge with a slight descent to opposite the Danda Mandi thana, 4 miles 6 furlongs, and the Lisári rivulet to Dalmisain encamping-ground, 3 miles 3 furlongs 4 poles, situate in patti Talla Sila. The road from Barsuri (see PURIYA-KE-MANDA) follows by the Thanu-khál pass to the Dwári-khál pass, 3 miles 1 furlong 27 poles, and thence by the same route by Diusa to Dalmisain. The road is tolerably level throughout, but hot and low.

Gujaru, a patti of parganah Malla Salán in British Garhwál, is bounded on the north by patti Khátali; on the west by the Deghát river, which separates it from patti Bijlot Walla; and on the south and east by the Sult pattis of Kumaon. The patwári of Bijlot Walla, residing at Dungari, collects the land-revenue of this patti also.

Gumdes, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by the Sarju river separating it from Palla Waldiya of parganah Shor; on the west, by pattis Regurabán and Chárál Malla; on the south by Khilpattiphát, and on the east by the Káli river separating it from Nepál. The principal villages lie along the hill slope and amongst them are Bind-Tyarhi, Sel, and Silanga. The assessable area comprises 4,585 *bísís*, of which 1,560 are culturable and 3,025 are cultivated (34 irrigated). The land-tax yielded Rs. 1,046 in 1815: Rs. 1,373 in 1820, Rs. 1,546 in 1843; and now stands at Rs. 2,950, which falls on the whole assessable area at Re. 0-10-4 per acre and on the cultivated area at Re. 0-15-7 per acre. The population at settlement numbered 2,651 males and 2,261 females. The *gunth* holdings amount to 23 *bísis*. Two villages were received from Regarubán at the recent settlement. This patti lies along the Káli, and only about one-fourth of the villages lie within the Káli valley; the remainder, amongst which are some good ones, occupy the upper portion of the hills. The patwári usually resides in Marlak: there is a school in Majhpípal.

Gumti, or **Gaomati**, a river of which the northern branch rises in patti Pindarwár of parganah Badhán in British Garhwál and

the southern branch rises under the Birchuwa peaks (8,042 and 7,427 feet respectively) and Gadwalbúnga (6,950 feet) in patti Mallá Katyúr of parganah Dánpur in Kumaon. These unite close below Baijnáth in latitude 29°-54′-24″ and longitude 79°-39′-28″, and flowing through the Katyúr valley join the Sarju on its right bank at Bágeswar in latitude 29°-50′-15″ and longitude 79°-48′-52″ at an elevation of 3,143 feet above the level of the sea. The elevation at Baijnáth is 3,545 feet. The valleys of the branches and the main stream are wide and fertile and support many villages and tea factories. The principal villages on the banks have been mentioned in the patti notices. The road between Baijnáth and Bágeswar follows the left bank of the Gúmti and the road from Almora *viâ* Someswar to Karnprayág crosses this river near Baijnáth and passes up the valley of one of the feeders of its northern branch.

Gún, a halting-place and traveller's bungalow on the route between Lohughát and Pithoragarh, distant nine miles from the latter. There is a shop for the sale of grain, but no servants or utensils at the bungalow. The view hence down the valley of the Sarju towards Rámeswar is very fine and from Thákil above, the Nipál hills are seen and the valley of the Káli. From Chhira to this place the Sarju is crossed by a bridge, and below it is a large pool in which as at Dhikuli on the Kosi, Bágeswar on the Sarju above and Hardwár, the fresh-water shark called *gunch* (*Bagarius Yarellii*) is occasionally seen. Above near Rámeswar is another pool in which there is a huge boulder worshipped as a form of the ling. From the Sarju, the road turns to the right up the bank of the Gunís or Jamír (citron) river, presenting the finest rock scenery in outer Kumaon. The torrent roars at a great depth below, veiled by the most beautiful woods; the north bank rises in a splendid façade of crags called Barúri, to the north-east of which is a still loftier and precipitous range called Masán and Bisar, amongst the declivities of which are the villages of Ják-Bhát, Puran, and Bálakot. There are several fine cascades from the precipices, which are all apparently limestone. At the Gún bungalow there is a remarkable orange-coloured rock of rhomboidal cleavage and low specific gravity, it is probably a clay-slate altered by the action of trap, a vein of which comes to the surface of the mountain a few hundred feet above the village of Gún. From here to Pithora,

the rock is chiefly clay-slate, which forms the basis of Thákil. At Pithora, the rocks are generally slate and limestone, the latter in tabular hills. At the base of Fort Loudoun there are some trap boulders which Herbert states were only detached from the crown of the hill when the works were raised in 1815. On the roadside close to Gún, the *Phœnix sylvestris* occurs of all sizes up to thirty feet and to the east, the slopes of Thákil are adorned with the *findora* (*Lilium Wallichianum*) growing six feet high, and producing one to three white blossoms occasionally a foot in length. The laburnum (*Edwardsia mollis*) and *stáli* (*Rhynchoria pseudo-cajan*) or *phúsur-pata*, bearing hairy yellow blossoms, also occur. The common *chír* pine covers lower Thákil with an occasional chestnut. Beyond Gún, the road leaves the Jamír and passes up a pretty cultivated glen to Toli. Thence the path leads down to Tharkot, the acclivities of the surrounding mountains cut down into cliffs or rounded into rocky knolls are covered with thickets of runnel (*Rhus parviflora*) of which the withered leaves give a heathery appearance to the place. From Tharkot the road rises gradually to Aicholikhán (one of the sources of the Jamír), from which is obtained a view of the Shor valley and Pithoragarh.

Gunka, or **Gankha**, the name given to the eastern branch of the Gori, which it joins near Milam, has its source in patti Malla Juhár of Kumaon in two streams—the one on the west called the Uta or Unta, which rises at the foot of the Unta-dhúra pass into Tibet; and the other on the east rising from the Lisár glacier. It contains a greater volume of water than the Gori, and has a longer course. In the upper part of the glen, during a fall of snow or a thaw, the descent of stones is almost continuous from the earthy precipices overhead, and at such times the road is dangerous. Rain is never very violent here, but whenever any falls, down come these avalanches of stones. Some of the latter are suspended on the tops of the ravine precipices formed from the *débris* of the adjoining mountains which rise in numerous places into sharp peaks and are in miniature, the resemblance of some of the more lofty points. Above Dúng, the river is crossed by a bridge of rocks with stones piled into the crevices, and about half a mile above this natural bridge, the stream is overlain for some distance by a huge bed of snow 12 feet wide and about 300 feet thick. The mass of snow

has a regular stratified appearance, and dips to the south-west, the reverse of the neighbouring mountains. The Uta, flowing through a small valley, enters it above at a similar opening to its exit.

Gurársyún, a patti of parganah Chaundkot in British Garhwál, is bounded on the north by patti Ringwársyún; on the east, by patti Pingala-Pákha; on the south, by patti Badalpur Malla, and on the west, by patti Maudársyún. The road from Páori by Seriyagár and Bijoli to Kohdwára passes through this patti, which on the south is drained by the Machlád river, an affluent of the Nyár (eastern). In 1864, fourteen villages were received from patti Taláín, five from patti Khátali, and one, Halúni, from Badalpur. The patwári of Pingala-Pákha collects the land-revenue of this patti also.

Gwálkura, a village and halting-place on the middle route from Páori to Almora in patti Choprakot of parganah Chandpur in Garhwál, lies in latitude 30°-4′-8″ and longitude 79°-0′24″: distant 9 miles 1 furlong 5 poles from Sinkhet and 9 miles 1 furlong 10 poles from Kainúr. The road hence to Kainúr passes up by Sainji to Dhúlet, 1 mile 6 furlongs 3 poles. If travelling from Kainúr and it is intended to halt at Chhipalghát traveller's rest-house instead of Gwálkura, the coolies should be changed at Dhúlet. From Dhúlet the road follows the stream to the Panji-khál pass north of the peak of that name (7,900 feet) into the eastern Nyár valley; this portion consists of two steep ascents separated by a bit of level 3 miles 18 poles from Dhúlet. Hence a descent, in parts steep, leads to Ghatúri, leaving the Museti bungalow and tea plantation to the south about a mile from the road, 2 miles 6 furlongs 22 poles, on to the Kainúr traveller's bungalow by a steep ascent, 1 mile 4 furlong 7 poles. The road is tolerably cool and shaded by forest, but the ascents and descents render it somewhat fatiguing.

Gyúnlad, a halting-place on the route between Kotdwára and Kainúr by Khátali, is situated in patti Saindhár of parganah Malla Salán in Garhwál, in latitude 28°-52′-30″ and longitude 79°-0′-50″; distant 9 miles 6 furlong 14 poles, from Sanglakoti and 7 miles 5 furlongs 25 poles from Domaila. The road hence to Domaila passes to Jagarmall (bridge) and by Limbugair (bridge) and Cháki to Saindhár, 1 mile 7 furlongs 1 pole, thence by Saton-Khál to Kudola-dhár, ascending and descending, 2 miles 37 poles, from which it passes by Jamuri (bridge) and the Bináyak-khál to

Domaila, 3 miles 5 furlongs 25 poles. It here joins the road from Kainúr to Rámnagar.

Haldwáni, or Haldwáni, an important mart in the Chhakháta Bhábar, is situate in north latitude 29°-12′-48″ and east longitude 79°-34′-17,″ at an elevation of 1,434 feet above the level of the sea, on the Bareilly and Ránibág road, 16 miles from Naini Tál. The name is derived from the *haldu* trees (*Adina cordifolia*) in the neighbourhood. The population in 1881 were chiefly traders. Haldwáni was founded by Mr. Traill in 1834 as a mart for the hill population, living for a portion of the year in the Bhábar. Since 1850, the grass huts that first were sufficient have been replaced by substantial masonry houses and the population is now permanently resident owing to the improvement effected in the climate by the many clearances in the vicinity. It is now an important centre of commerce for the Bhábar, and the opening of the railway must enhance its importance. There is a dispensary and a police-station here, and the villages in the neighbourhood for the most part belong to Náyak colonies from Rámgar in Kumaun. Close on the east is the bed of the Gaula river, which is here largely used for irrigation and is about half a mile across. The road then passes along the foot of the hills by Naugaon and Jampokhri, to Chorgaliya, about 14 miles from Haldwáni, to the east of which the Nádaur or Garra or Deoha debouches from the hills. Chorgaliya (thieves' pass) is an old and large clearing divided into the Malla and Talla villages with large settlements close by like Lakhman-Mandi and Náyagaon. Hence onwards to Barmdeo cannot be traversed in the hot weather and rains, as the cattle-tenders who are the only inhabitants leave the place at the end of March for the hills. From the Nádaur the road passes over the Kárakot torrent, dry in the cold weather, to Hathgadh, behind which the hills recede into a beautiful bay. The rest of the way lies through dense forests of *sál, dhák, haldu, sáj, jáman, aonla, rai-jáman, bhaliau, sahajna, kumbh, amaltás, roli, giwáta* or *dera*, and *chila* or *chilara*, besides *Hibiscus lampas*. Near Jaulasál occurs *Ficus nitida, Trewia nudiflora* (*túmri*), besides bamboos and grass, both exceedingly high.

From Jaulasál, where there is a police station, a path leads to Durgapípal on the Nádaur in Talla Palhelon, celebrated for its groves of *tún*, and thence by the Ladhiya to Devi-Dhúra or to

Champáwat. The pass from the Bhábar is known as the Himli pass from the peak of that name (3,864 feet). Some twelve miles along the old bridle-path is the Kalauniya hill torrent. There is a small mart for wild forest produce on the right bank of the Kalauniya (afterwards called the Jagbúra) at the foot of the eastern slope of the temple-crowned Airideo peak (3,793 feet). The road, a fairly good one passable for wheel traffic in the cold season passes by Dogári 16 miles, where there is a police-station and rest-house, thence crosses the Kalauniya three miles south of Chela, thence Chini police-station, eight miles from Dogari and thence by a good broad road to the new mart at Tanakpur. The old bridle-path is seldom used now. A road by the Timla pass leads to the Hadhiya, and it was by this route that Captain Hearsey invaded[1] Kumaun in 1815. From Chela the road to Barmdeo (*q v.*) is passable for carts, and is now joined to the cart-road leading from the Sárda to the Ganges.

Hastings, or Kotulgarh, a fort situated in patti Sui Bisung of parganah Káli Kumaon in Kumaon, about 4 miles west of Lohughát on a ridge at the entrance of the valley 6,327 feet above the level of Calcutta in latitude 29°-24′-30″ and longitude 80°-6′-5″. It occupies a steep knoll 150 to 200 feet above the general level of the mountain, separated by a deep neck from a plateau east-north-east, on which stood an outpost called Raunj, from which Kotalgarh could be easily battered. The area of the fort is about eighty yards north and south and twelve or fourteen east to west, surrounded by a good stone wall eight to ten feet high and five feet thick. There is a reservoir, but no water, the nearest supply being under Raunj, a mile distant and a small spring to the west. Were the reservoir watertight and filled, the position would be a strong one; except from the east, the approaches are extremely steep. The fort was intended to command the fertile valley of Bisung to the south and west, but has been abandoned for a very long time.

Madden writes:—"Kotalgarh is fabled to have been the stronghold of the arrow-demon Bána Asura (Bánásur) Daitya, the son of Mahábali, who fought with Vishnu and his Suras and prevailed not, though the conflict was long and doubtful. No sooner was a Daitya slain, and his blood poured on the ground, than it produced

[1] Gaz. XI, 655.

a hundred others, so that the greater the slaughter of the enemies, the further were the gods from victory. In this difficulty, Mahá-káli was created, like Pandora, by general donations from the celestials, and by her were the giants at length exterminated. Among those who fell by her hand was Kottavi, the mother of Bánásur, who, with a coat of mail over her bust, and naked from the waist downwards, fought like an amazon on the battlements, which are said to derive their name from her exploits and appearance, Kotulgarh being interpreted by "the fortress, the abode of the naked woman." The received traditions of India locate Mahábalipur on the Coromandel shore below Madras, and Bánásur still further south near Devicotta; the learned Pandits of Kumaun, however, locate all these wonders at and around Lohughát, and affirm that Súi is no other than Sonitpur, "the red city," of the Puránas, the abode of Bánásur. The peculiarities of the soil at and around Lohughát explain the mystery. On removing the sod, in some places a blue, but far more generally a deep-red ferruginous clay is found to form the soil, and to this the people appeal as ocular demonstration of the legend: it owes its colour to nothing else than the blood of the giants. During the rainy season, the Lohu or "blood" river is similarly discoloured, and hence the name of the station."

Hawalbág, a hamlet six miles south-west of Almora in Kumaon, is situate on the left bank of the Kosi. It was formerly the head-quarters of the civil administration and of the civil force known as the Kumaon local battalion, and now as the 3rd Goorkhas, which was relieved of civil duties in 1839. It was also the site of the principal tea-gardens when that industry commenced under Government auspices. The site is fine and picturesque, but much warmer than Almora. There are still some European houses and tea-gardens. The roads to Someswar, Binsar, and Ránikhet pass through Hawálbág, and the Kosi is crossed by a fine bridge on the cart-road and also by an iron suspension bridge. North latitude 29°-38′-40″, east longitude 79°-40′-43″, at an elevation of 3,920 feet above the level of the sea. Opposite Hawálbág at Katarmal are the remains of a large temple dedicated to Aditya or the sun, and a cluster of small ones also in ruins owing to an earthquake.

Hinwal, *Hiul*, or *Hiunwal*, a river rising in the ranges of patti Karondu Walla, in latitude 29′-55″ and longitude 78′-39″,

drains the country to the south and west of the Nyár drainage area and taking a north-westerly course for about twenty miles turns due west and falls into the Ganges on the left bank at Phalari, about five miles above where it debouches into the plains at Rikhikes. The Hiunwal forms the boundary between the Dhangu sub-divisions on the north and the Udepur pattis on the south. Webb forded it in April five miles above its mouth, and found the bed forty yards wide and the stream sixteen inches deep with a moderately rapid current. In the cold season it is rarely more than ten yards wide and in the rains it is twenty to fifty yards wide, and made use of to float down logs from the forests.

Idwalsyún, a patti of parganah Barahsyún in British Garhwál, is bounded on the north by pattis Rawatsyún and Katholsyún; on the east by the latter patti and patti Nadalsyún; on the south by pattis Gangawársyún and Sitonsyún, and on the west by Bangarhsyún. In 1864, Fatehpur was transferred to Katholsyún. The patwári of this patti collects the land-revenue of patti Katholsyún also; both aggregated Rs. 2,944 for land-revenue and sadabart and Rs. 86 for gunth in 1864, paid by a population of 6,582 souls. There is a school at Sirauli in this patti. The valley of the Garh stream, an affluent of the Kandha, comprises nearly the entire patti.

Iriyakot, a patti of parganah Malla Salán of British Garhwál, is bounded on the north by the eastern Nyár river and pattis Saindhár and Khátali; on the west, by the Badalpur patti; on the south by the Painun patti, and on the east by Gujaru. It lies between longitude 78°-53′ and 79° and between latitude 29°-52′ and 29°. The road from Páori to Dháron passes through this patti crossing the Nyár at Chauránidhár, then by the Walsa-gár rivulet and up the Rikhini-khál pass into Painun. The patwári of Iriyakot resides at Chauráni in the patti and collects the revenue of Kolagár also. The land-revenue of the patti by the new settlement was Government revenue and sadabart Rs. 2,360; revenue-free and *gunth* Rs. 103; total Rs. 2,463. There is a school in Bhawan village. In 1864 three villages were received from Painun. There are iron mines at Pipali and Kholdandatoli.

Jádh-ganga or **Jáhnavi,** the western and longest feeder of the Bhágirathi, which itself is the western affluent of the Ganges, takes its rise in the Tíhri State on the southern slope of the water-

parting line between India and Tibet, in north latitude 31°-27′-30″ and east longitude 79°-5′. To the west of its drainage area, the surplus waters find an outlet in the Satlaj. The confluence with the Bhágirathi at Bhaironghâti (*q.v.*) is marked by scenery of a terrific grandeur and sublimity, a characteristic of the entire valley to the junction with the Mána-gadh some twenty-one miles further up. The Mána-gadh rises in a large glacier to the west of the southern foot of the Mána pass and falls into the Jádh about six miles above Nilang. The main affluents of the Jádh are the Súmla-gadh from the north at the head of which is the Thága-la, the most western of the two passes into Tibet from the Nilang valley. The Jádhang-gadh from the south-west joins the main stream about seven miles above Nilang. Then comes the Mána-gadh from the east; this latter stream is fed from the south by a very large glacier whose head is only four or five miles from the *gau-mukh* or source of the Bhágirathi. Another branch rises in the peak to the west of the Mána pass known as Tára; and a third, the Chánganmu, flows from the north, from the direction of Muling. From the water-parting at the sources of the Jádh, the ground falls abruptly to the north, giving rise to the Hop-gadh, a tributary of the Satlaj. The Hop takes its rise in a glacier a little north-west of the Mána pass, first with a northerly course, and then north-westerly under the ridge, and finally northerly again falls into the Satlaj about twenty-five miles north-north-east from the eastern pass of the Jádh valley called Tsáng-chok-la. West of the Hop-gadh three other considerable streams appear to drain into the Satlaj from the northern slopes of the range at the head of the Nilang valley: in the most western of these at a distance of eight to ten miles from the Satlaj is the Tibetan village Thánng or Stáng. On the spur between this and the next stream is a Dokpa encamping-place called Gandok or Gandoh. The third stream, the one nearest the Hop-gadh, has on its left bank, about twelve miles from the Satlaj, the village of Sarang with another called Karbak on the other bank, immediately opposite. About nine miles north-east of the pass on the southern face of a spur is Dokpa Aur, where the Jádhs and Huníyas exchange their wares. One march beyond is Poling and two marches more Tsáparang or Chháparang on the Satlaj. From Poling a short march to the south brings one

to Muling encamping-ground, and thence there is a track in a general southerly direction past a small lake on the northern face of the water-parting line crossing the range some twelve or fourteen miles south of the Tsáng-chok-la, and going down the Chúnganmu and Mána *gadhs* to Nilang. It is, however, very seldom used.

To Mr. Kinney of the Great Trigonometrical Survey the credit is due for establishing on a firm basis the origin and course of the Jádhganga. Up to 1815, very little was known of the western head-waters of the Ganges. The idea adopted was that the Ganges formed one of the affluents from lake Mánasarowar, and flowing westward either forced its way through the snowy range by a subterraneous passage or fell[1] over its brow in a cascade at Gangotri known as the 'cataract of the Ganges.' Mr. J. B. Fraser in 1815, and Messrs. Hodgson and Herbert who visited the *gau-mukh* in 1817, successfully combated this idea, and fairly indicated the position of the sources of the Jáhnavi. In 1867, two of the trans-Himálayan explorers surveyed the route from Shipke to Nilang: according to them the Thága-la pass is 16,810 feet at the crest. The next encamping place is Pulamsumdo, 12,984 feet.; Nonam, 12,583 feet; Nilang or Chorsa, 11,181 feet; and Makhpa village, near rest-house, 8,172 feet. It was not, however, until Mr. Kinney made his report on which the present notice is based that we know anything at all accurate about this tract. The Puránas explain the name of the river as follows: Jáhnu was a descendant of Soma and fifth in descent from Pururuvas, the son of Budha and Ila, and whilst performing sacrifice he saw the whole place overflowed by the waters of the Ganges and getting angry drank up the river which by the intercession of the gods was restored as his daughter: hence the river is called the Jáhnavi. Jáhnu was the husband of Kaveri, who by his curse became the Káveri river. (Wilson's Works, IV-14.)

Jaintolsyún, a patti of parganah Chaundkot in British Garhwál, is bounded on the north by patti Ringwáryún; on the south by patti Maundársyún; on the east, by patti Gurársyún; and on the west, by patti Aswálsyún. The name Jaintol is derived from the caste who colonised the patti. The patwári of Ringwársyún resident in Gujaru collects the revenue of this patti.

[1] See GANGOTRI.

Jallath, a village of the Bhotiya tract known as Munsyári in patti Goriphát of parganah Juhár in Kumaun, lies on the route by Milam and the Unta-dhúra pass into Tibet, 93 miles north-east of Almora. The encamping-ground is near the village on the right bank of the Gori in latitude 30°-7″, and longitude 80°-13′-10″.

Jaspur, a town in the parganah of the same name in the Tarái district, is situate about 8½ miles due west of the town of Káshipur and 53½ miles from Naini Tál. The population in 1872, numbered 6,746 souls and in 1881 there were 7,055 (3,174 females) inhabitants, of whom 4,225 (1,890 females) were Hindus and 2,796 (1,532 females) were Musálmans. The site has an area of 494 acres, giving 14 persons to the acre. The old name of parganah Jaspur was Sahajgar. The town is of modern growth and possesses few brick houses. There is a weekly market which attracts a considerable local trade in cotton goods and *gúr* or coarse sugar. Cotton clothes are manufactured to a small extent. The public health is better than in Káshipur as the site is higher and drier, and there is no tarái belt in the vicinity. The country around, too, has more the appearance of the plains proper, so that malaria is less rife and destructive than in the neighbouring town.

Jaunsár-Báwar, the hill parganah of the Dehra Dún district, lies between north latitude 30°-31′ and 31°-3′-30″ and east longitude 77°-45′ and 78°-7′-20,″ with an area of 343·5 square miles. It is bounded on the north and east by Tihri; on the west by the hill states of Basáhr, Raiengarh, Taroch, Jubal, and Náhan or Sirmor, from the last of which it is separated by the Tons to its junction with the Jumna near Kálsi, and on the south by the Dehra Dún district.

In shape the tract is an irregular parallelogram wedged in at right angles to the Dehra Dún between the Tihri State on the east and the Hill States of the Panjáb on the west, occupying in its lower portion the *duáb* of the Tons and Jumna.

Sub-divisions.

The name is derived from the names of its two principal sub-divisions, Jaunsár and Báwar, though in fact the parganah contains a third known locally as Lohkandi. Following Major Young, the boundaries of these divisions are as follows: Jaunsár is bounded on the north by Lohkandi; on the east by the

[1] This notice is based on the official reports of Major Young, Mr. Cornwall, Mr. Ross and Colonel Pearson and the memoir of Mr. Williams. [2] G. I. (R. A. Dept.) 119R., 8th February, 1884.

Jumna, and on the west by the Tons to their junction: it therefore consists of a triangular tract having its apex at Kálsi with a length from north to south of 18 miles. Lohkandi comes next to the north with a length of five miles, and then Báwar, with a length of ten miles, giving a total length from north to south of 33 miles, and a breadth at the widest of 23 miles. There are a few small patches extending still further north, and the tract known as Deoghar to the west of the Tons.

Khats.

In 1883-84, the settlement was revised by Mr. H. G. Ross and confirmed by the Government of India. The following table gives the names and statistics of each of the thirty-eight khats into which Jaunsár Báwar is divided:—

Name of khat.	Cultivated area in acres.	Assessment.	Number of cattle.					Assessment.	Area in acres of occasional cultivation.	Assessment.	Total demand.
			Cows.	Bullocks.	Buffaloes.	Sheep.	Goats.				
		Rs.						Rs.		Rs.	Rs.
1. Bharm ...	640	1,023	459	510	...	1,500	2,000	115	136	71	1,309
2. Seli ...	1,092	1,746	1,218	1,028	48	923	1,292	181	248	100	2,182
3. Bahlár ...	421	673	649	465	93	341	704	98	100	18	816
4. Phartár ...	619	990	1,209	541	140	641	1,412	159	108	23	1,114
5. Bamtár ...	1,040	1,663	771	901	...	648	1,231	134	232	184	2,199
6. Lakhwár ...	403	644	796	449	148	334	853	115	48	11	730
7. Bangaon ...	380	607	1,015	357	27	324	1,263	114	140	86	780
8. Koru	858	1,372	547	867	78	297	724	113	152	29	1,296
9. Mohna	216	345	444	250	..	488	544	60	166	22	341
10. Udpálta ...	498	796	335	583	4	129	454	54	160	81	852
11. Dhanau	461	737	557	321	..	1,761	1,684	109	84	14	788
12. Duár	391	625	467	225	21	637	729	67	248	52	659
13. Bislár	267	427	1,018	327	19	1,167	1,332	127	188	39	446
14. Masau	549	878	483	402	..	1,660	1,327	110	100	52	919
15. Birmau	405	648	683	311	12	329	525	77	104	49	586
16. Seli-Gothán ...	562	899	544	488	14	368	715	83	92	30	863
17. Taplár	533	852	757	420	12	421	1,237	101	192	43	513
18. Athgaon-Chandan...	622	995	347	200	..	199	620	47	168	104	883
19. Athgaon-Uparli ...	390	624	253	186	2	772	...	40	124	38	362
20. Silgaon	857	1,370	1,096	527	..	671	1,777	140	172	154	1,253
21. Rangau	70	112	109	41	19	154	..	14	44	8	101
22. Bisáhal	1,002	1,602	1,143	552	...	650	1,820	147	180	89	1,357
23. Disau	949	1,517	752	452	..	684	1,623	111	240	49	1,421
24. Baundar ...	808	1,388	1,051	342	57	900	1,277	126	400	94	1,002
25. Kalau	297	475	587	277	..	808	828	76	56	32	344
26. Bána	391	625	319	307	..	228	773	55	56	12	448
27. Samálta... ...	346	553	316	312	...	233	259	47	48	22	634
28. Kothi	44	70	49	57	...	30	88	8	...	10	42
29. Barasua... ..	105	168	140	71	6	83	129	16	44	10	83
30. Chhartári ...	131	209	141	80	38	118	149	23	106	13	112
31. Lakhau	293	468	143	140	...	555	557	35	148	61	253
32. Malota	113	181	105	90	..	40	250	17	24	8	90
33. Panjgaon ...	725	1,159	750	610	41	437	868	111	152	30	1,104
34. Deoghar... ...	911	1,457	437	357	1	1,151	1,170	89	656	254	755
35. Báwar	682	1,090	519	340	16	745	893	81	564	186	625
36. Silgaon	282	451	316	148	..	487	536	45	172	36	243
37. Punayár ...	136	217	221	95	...	491	392	33	56	24	178
38. Bánádhar ...	214	343	147	132	...	430	550	33	76	52	261
Total ...	18,763	29,999	20,910	13,589	771	21,774	33,090	3,111	5,984	2,190	27,928

The assessment on the cultivated land in column 3 has been made at Re. 1-9-7 per acre: on cattle in columns 4 to 8 at one anna per head for cows, bullocks, and buffaloes, and at a quarter of an anna per head for sheep and goats and the assessment on occasional cultivation in column 10 has been made at Re. 0-8-11 per acre, with additions for turmeric, ginger, and opium.

Hills.

Jaunsár-Báwar is entirely composed of a succession of hills and mountains, so that, to quote the words of Major Young, "there is not a single spot of one hundred yards of level ground in the whole parganah." Mr. Fraser also writes:—"There are no spreading valleys, no gentle undulation of ground, on which the eye can rest with pleasure; all is steep and difficult, toilsome rise and sudden fall." The great physical feature is the ridge separating the drainage area of the Tons from that of the Jumna. Commencing from Haripur-Byás near Kálsi it runs west of Chakráta Deoban, and thence in a north-easterly direction to the Karamba peaks above Lokár. At Bairát, where the Mussooree road joins this ridge, there is a peak having an elevation of 7,399 feet above the sea, further north, near Kyáwa, another having an elevation of 6,558 feet. Then comes Deoban, 9,331 feet, another 8,730 feet, whence the range trends to the north-east, continued in Bájamari, 9,536 feet, and three other peaks, 9,200, 9,533, and 10,075 feet respectively, when it enters Tihri and loses itself in the spurs of Bandarpunch. From the main range, ridges are given off on either side towards the great rivers. Each of these ridges also gives off lateral spurs, the hollows between which form the beds of torrents that feed the numerous tributary streams of the Jumna on the east and the Tons on the west. Even in the hills, Jaunsár-Báwar has the character of being one of the wildest and most rugged tracts, affording naturally very little level ground, and that only in small patches. The mountains are peculiarly rough and precipitous, there is much cliff and rock and few villages, so that the cultivation is necessarily small and very laborious. The whole rock almost is limestone, which no doubt gives the massy, irregular character to the mountains. The ravines are, as a rule, deep and sudden in their descent, often ending in dark chasms, sometimes wooded, but, as often, exhibiting bare faces of precipitous rock, covered, here and

there, with a fine wiry grass, and merely affording space between for the roaring torrent that has worn a way for itself in the lapse of time.

Forests.

Half a century ago, the country on either side of the main ridge was thickly covered with noble forests of *deodár*, and it is along it and its spurs that the existing forests occur. The Deoban hill, a prominent feature in the landscape wherever the traveller proceeds, now contains but a few patches of *deodár*, though the south and east faces are well clothed with oak, chiefly *bánj* (*Quercus incana*) and *moru* (*Q. dilatata*), and on the top *karshu* (*Q. semecarpifolia*) is abundant. Below this last, but near the summit, *morinda* or spruce fir (*Abies Smithiana*) mixed with *Abies Webbiana* known under the same name, occur. But the glory of Jaunsár-Báwar is its virgin forests of *deodár*: on the Lohkandi spur, the Bodhiya, Mashak, and Kotikanásur forests; on the spur between the Banár and Chili streams, the Kaislohi forest; around the head of the Dháragád, the Totwa, Maura, and Lakhan forest, and to the west of them Chhijál, Koti and Bastil forests. To the west of the Tons is the Mandhaul forest.[1] But besides these, large forests of oak, firs, spruce and scattered patches of *deodár* fringe all the ridges and clothe the sides both of the main range and of the lateral spurs, and to the south near Kálsi we have *sál*, *bákli*, *dháora*, *haldu*, *kusum*, *khair*, and *sisu*, some of which run up for a long way in the hot and confined valleys of the Tons and Jumna to an elevation of nearly 4,000 feet. We have next the grey-oak, rhododendron and *Andromeda* between 5,000 and 7,500 feet: at the lower limit the *chír* pine (*P. longifolia*) and at the upper, blue-pine (*P. excelsa*) and the *deodár*, and above these the *deodár*, *moru*, and *karshu* oaks. There are four species of maple, horse chestnut, walnut, cypress, spruce, silver-fir, yew, and several species of *Pyrus*.

Bodhiya.

The Bodhiya forest lies to the west of Deoban about the Lohkandi peak, 10,188 feet. The northern portion is known as Kanani, and the southern as Bodhiya. Colonel Pearson writes:—

"The basin or valley in horizontal area may perhaps be about two miles in width by one in depth; but the numerous ravines and spurs which run down from the main ridge must give a much larger superficial area of forest. The rocks are limestones, and very precipitous and the ravines are full of a rich deposit of decayed vegetable matter, in which the *deodár* seems to spring up with great vigor

[1] Report 211A. 12th May, 1869.

wherever it has a chance, and thousands upon thousands of young seedlings may be seen coming up, literally as thick as corn in a field." But, except in places where the forest has been closed, the seedlings are not permitted to come to maturity, as many hundreds of sheep from the neigbouring villages come to graze, and by nibbling off the heads of the young shoots, reduce them to the condition of furze bushes. But the natural growth of the *deodár* in this well-protected basin is wonderful, and much still remains notwithstanding cuttings.

Mashak is situated on the north or opposite side of the main Lohkandi spur to Bodhiya. The ridge itself on that side is tolerably covered with scattered patches of *deodár*, intermingled with cypress on the higher ridges, and firs (chiefly spruce, mixed with some silver firs and *chil*) lower down. There are also oaks and rhododendrons. Around the village of Mashak itself there has no doubt been formerly a considerable *deodár* forest; but its contents have been largely cut down in past years; in no place can there be said to be a regular forest like Bodhiya. Eastward towards Deoban, the forests get thicker, and numerous patches of *deodár* are found among the firs and oaks. All along, however, the spruce fir predominates and forms the staple portion of the forest. On the northern side of the main Lohkandi spur there is a little forest, the nucleus of which is round a temple in a beautiful glen, about half-way between Lohkandi-ghát and Deoban, overlooking one of the feeders of the Banár-gád. Immediately above the *deodárs* at Koli, there is one of the finest and most noble forests of silver fir and spruce seen anywhere. The side of the limestone hill, covered with a rich vegetable deposit, is somewhat steep, and the trees are all giants; and the forest underneath them being perfectly clear and free from undergrowth presents a very noble appearance. In a few places some young *deodárs* (of which a very few old trees are mixed with the firs) springing up under the shade of the silver firs, to the supersession apparently of the proper offspring of the latter. Returning to Deoban, and following the main ridge northwards to the Karamba peak, *deodár* is found scattered here and there sometimes in considerable quantities, especially on the west side of the range, and in the ravines, which are very precipitous, running down into the head streams of the Banár-gád. After running for about six miles along the east side of the ridge, a steep path leads down through a forest of oaks and maple, with some firs, to a spur of the Karamba peak, running down between the affluents of the Banár-gád and Chili-gád. On this spur is situated the village of Kanani, and around and above it is the fine *deodár* forest known as Kaisloi. Along the main range leading down to this spur, and on the grassy slopes which run up to the Karamba peak from its base, some exceedingly noble *deodár* trees are to be seen. These stand in clumps of five or six (more or less) in number, for the most part on little spurs or other places where a deeper deposit of earth remains than the steep slope of the hillside usually admits of. Indeed, for the whole distance down to the village of Kanani, little else but *deodár* is to be seen, mixed with some *Pinus excelsa*. The destruction from burning the jungle for *khil* or temporary cultivation has here been very great. Crossing the Chili-gád stream, and ascending by a very steep path the next main spur, which separates the Dhara gád valley from that of the Chiligád, and the parganah of Jaunsár from Báwar, the forests at the head of the Dharagád, known by the names of Totwa and Lakhan or Lokar, are entered. These are by far the finest, most extensive, and most perfect of all the *deodár* forests in the parganah.

West of the Jákhni-Lâni pass (7,050 feet) there is a high mountain in the deep bay, on which there is a pure *deodár* forest of considerable extent. From the steepness of the sides of the hill, the trees are not as large as others, but the timber seems exceedingly firm and well-grown. There is a magnificent view down the Rama-sera valley to the Jumna and across the high ridges to Bandarpunch, from the summit to this mountain. There is also an excellent view of the forests, of Lakhan and Totwa, on the opposite side of the valley. Descending this ridge the Chhajal spur is met, which, after dividing into two minor spurs, runs down into the Tons, near its junction with the Pabharu or Paban. Above Chhajal there has been a fine *deodár* forest, but it has been horribly mutilated for *khil* cultivation. Still there is a very considerable amount of good forest left, and much of the space that was cleared is again clothing itself with young *deodárs*. Proceeding down the ridge towards the Tons, we find that it separates itself into two minor spurs, on one of which is situated the village of Koti and on the other that of Bastil. These spurs possess two small but perfect forests of *deodár* mixed in the upper portion with a good deal of exceedingly fine *chil*. Crossing the Tons, by the *jhula*, on the Simla road below Kuti, and ascending to Mandhaul, in the larger ravine above the bungalow, stretching up to the Bairach peak, there is a magnificent *deodár* forest nearly pure."

Rivers.

The Jumna touches the district first near Lakhamandal in Khat Baundár, in north latitude 30°-44′-30″, and there receives the Riknár stream on its right bank. The Riknár, for some distance, separates Báwar from Rámasera in Tíhri, and is of some local importance. Eight miles lower down the Jumna receives the Khatno-gád, which forms the boundary between Khat Taplár and Khat Bangaon; and further south the Seli-gád from Khat Seli, besides other minor torrents. After about 23 miles from its confluence with the Riknár, the Jumna turns west to its junction with the Tons below Haripur at an elevation of 1,529 feet above the level of the sea. About two miles east of this confluence the Jumna receives the Amláwa, which, rising on the southern slopes of Deoban, drains central Jaunsár. Its drainage area is bounded on the east by the main range already noticed, and on the west by a similar range of lower elevation connecting with the main range at Deoban. This latter chain therefore in the southern part of the parganah forms the water-parting between the Tons and Jumna systems. The Phaphara, Pabharu, or, according to Europeans, Pabar, rises in Basáhr, and flowing through Raiengarh joins the Tons on its right bank near Seniya between *khats* Deoghar and Báwar. The principal affluents of the Tons (*q.v.*) on its right bank are the Chandli, Dadu, and Saran streams from *khat*

Deoghar: on the left bank we have the Kirun-gád in Báwar, the Dhára-gád in Phaniyár, the Banál-gád in *khat* Bana and numerous other torrents. Canal-irrigation is impracticable owing to the character of the country; but the cultivators lead the minor streams over their fields wherever available, and use the water-power for their mills. The Tons is bridged at Maidrath (3,172 feet) and Bastíl (2,960 feet) in *khat* Báwar and at Sangota (2,550 feet) in *khat* Barhm. There are bridges over the Jumna at Lakhwár (2,210 feet) on the Mussooree road; an iron suspension bridge below Kálsi and close to it an iron girder bridge on the cart road. Floods are common and in some cases injure the fields. There are two main roads, (*a*) that from Mussooree to Simla by Lakhwár and Chakráta, and (*b*) the military cart-road from Kálsi to Chakráta. The latter is divided into two sections, one to Sáya in Bamtár, eleven miles; and the second thence to Chakráta, seventeen miles. This road is bridged, but not metalled. There is also a bridle-path from Sáya to Chakráta, nine miles. The first road in Jaunsár was constructed under the superintendence of Major Young in 1828 from Kálsi to Bastíl, 35 miles as the crow flies, with a branch to Rájpur. Roads are still much required and even good paths from four to six feet wide would do much to open up the resources of the parganah by affording an easy means of communication with Kálsi and Chakráta. Much has been done in this direction by the Forest Department; but as these roads are principally for their own purposes, and lie through closed forest tracks, they are not of so much advantage to the people as they might be.

Khats.

Taking the *khats* from Lakhwár northwards, the character of their capabilities for cultivation and physical features are to be noticed, and we shall commence with the Jumna *khats*:—

Lakhwár lies in the extreme south-east along the Jumna, and is crossed by the Mussooree and Chakráta road. It is composed almost entirely of terraced fields and the hills are dry and unproductive with little or no forest and a limited grazing area. A little turmeric is grown.

Phartár lies immediately to the north of Lakhwár and has much the same character. The hills are precipitous, dry, and barren, little forest, not much grazing, a good deal of southern aspect, and a stony soil.

Bhalár lies to the north of Phartár, and comprises the tract north of *Nágthát* bungalow on the Mussooree road and, like the preceding, is bounded on the east by

the Jumna. There is a great deal of good northern exposure in the cultivation, but little forest and not much grazing.

Koru lies to the north of Bhalár between the Seli and Dabred streams. Here the hills are dry and barren with very little forest and not much grazing, and, though very highly cultivated, not very productive. The Jumna forms the eastern boundary.

Seli is also bounded on the east by the Jumna and occupies the valley of the Seli-gád. It is one of the largest and finest khats running up from the Jumna to the rifle-range at Chakráta.

Bangaon lies to the north of Seli and is drained by the Ningál-gád ; a portion of its cultivation extends as far as the northern boundary of cantonments.

Taplár lies to the north of Bangaon, and is drained by the Khatno-gád. It is bounded on the east by the Jumna and is fairly off for cultivation, though badly off for roads.

Baundár, to the north of Taplár, also lies along the Jumna, and though a very fine *khat*, is out of the way and unconnected with the rest of the parganah.

Turning now to the middle *khats* we have :—

Panjgaon lies on the left of the Amláwa stream in a poor country, with bare hills, little forest or grazing, and is not very well off.

Seli-gothan lies to the north of Panjgaon between the main range and the Amláwa, and possesses little forest or grazing, otherwise it is a fair *khat*.

Udpálta, to the north of Seli-gothan, occupies a similar position, and like it has but little forest or grazing land. The fields are terraced and absorb much labour in repairs.

Birmau lies between Udpálta and Chakráta and had to give up much of its forest and grazing land to cantonments.

Barásua is a very small *khat* within Bangaon to the north of cantonments.

Mohna also lies to the north of cantonments on the upper waters of the Dáwan-gád. It has a deficient supply of grazing land, but a fair proportion of cultivation.

Duár lies to the east of Mohna and is similarly situate.

Bislár lies to the east of Duár, and is drained by the Bijád-gád ; but cultivation is either backward or stationary.

Athgaon-upárli lies still further east on the left bank of the Bijád-gád : it shows a good extent of irrigated land, though the population is migratory.

Bamtár lies to the west of Chakráta, the cart-road running right through the centre of it, so that purchasers come up and carry away the surplus produce, potatoes, turmeric, and ginger.

Taking now the khats bounded on the west by the Tons, we have :—

Bána, on the south, on the right bank of the Amláwa stream. The soil is poor and does not grow the more valuable crops. Irrigation is not much used.

Bisáhal lies next, to the north, and is traversed by a path from Kálsi, which crosses the Tons by a rope-bridge at Tunyáya. There are fine table-lands, well irrigated, and good turmeric and ginger cultivation.

Silgaon comes next, drained by the Dháwad-gád and traversed by a road from Kálsi.

Athgaon-chandan lies to the north of Silgaon. There is a good deal of cultivation, permanent and temporary (*khil*), and a considerable area under ginger and turmeric.

Maleta lies to the north of the preceding, and is drained by the Maindár-gád and traversed by a road. It is a small *khat* and has no irrigation.

Disau is situate between Maleta and Dhanau, from the latter of which it is separated by the Amliár-gád. It is on the whole an average *khat*; but, owing to quarrels amongst the villages, not so prosperous as it should be.

Dhanau has lost some of its better lands by being enclosed as reserved forest, and is on this account somewhat badly off for grazing land.

Bharm lies to the north of Dhanau, and is very remote from markets; but there is a good deal of table-land on moist hills with a good northern exposure. There is some good temporary cultivation and a considerable amount of irrigation.

Masau lies to the east of Bharm, and has had a good deal of its area enclosed by forests. It is separated from Báwar by the Banár-gád.

Kalan or *Kailo* lies to the east of Masau on the left bank of the Banár-gád.

Lakhan lies to the north of Masau and Kalan on the right bank of the Banár-gád, and has lost a portion of its lands in litigation with Silgaon.

Besides these there are the small *khats* of Rangau, Chhartari, Kothi, and Samálta, much mixed with other *khats*.

The Báwar *khats* are represented by :—

Báwar is much cut up with enclosed forests. Most of its villages are in a very backward state, caused as much by the apathy of the inhabitants as by the position of the *khat*, remote from markets, and with a more rigorous climate.

Bánadhar lies along the left bank of the Dhara-gád, and was formerly included in Báwar as a *khag* or sub-division of a *khat*. It is better off as to markets and grazing land than Báwar.

Punayár or Phaniyár lies to the east of Bánadhar, further up the Dhara-gád valley, and was formerly a *khag* of Báwar.

Silgaon lies further east still and is crossed by the Simla road. It, too, was one of the *khags* of Báwar.

Deoghar is the portion of Báwar on the right bank of the Tons. All these Báwar *khats* are at present assessed at low rates and possess some of the best arable land in the parganah with plenty of grazing land and the means for irrigation; yet successive observers state that owing to the general idleness of the people they are worse off than those in the lower *khats*. Although for the last twelve years large forest works have been carried on in their midst, hardly a man took the trouble to earn the high wages offered when even ten days work would pay his quota of land-revenue for the year.

Products.

The zoology and botany of Jaunsár-Báwar has been noticed in previous volumes. The domestic cattle are of the small black-and-red, short-legged breed found throughout the hills, and are inferior to the plains cattle in size, strength, and as milch-cattle. They have increased very considerably of late years, as the following figures show :—

	Horned cattle.	*Sheep and goats.*		*Horned cattle.*	*Sheep and goats.*
1848 ...	7,430	28,460	1868 ..	32,300	50,100
1850 ...	10,870	27,200	1883 ..	35,270	54,860

They are subject to the same diseases as in Kumaun and Garhwál. There are not many buffaloes in the parganah, 771 according to the recent returns. The custom prevails of buying bull calves in the plains and keeping them for two years in the hills and then bringing them back to the plains for sale; the two years' residence in the hills is supposed to strengthen the animals very much and enhance their value.

Crops.

Besides the timber of the forests the characteristic vegetable products are rice, *manduwa*, wheat, barley, turmeric, ginger, red-pepper, tobacco, opium, potatoes, gums, and a little maize. The rice is grown entirely in the valleys: some high, some low; requires good land; and is nearly always watered. A certain amount of dry rice is sown, but the people don't care to run risks with it, and so, as a rule, they keep their dry lands for *manduwa*, which is the chief article of food. The plant is most hardy, and will apparently grow amongst mere stones and shingle. It is a rain crop, but too much rain spoils it. A good year for rice is a bad year for *manduwa*, and *vice versâ*. Wheat and barley are grown a good deal on the hill tops. The seed is sown in the end of September, so as to germinate before the frost comes on. These crops depend entirely on snow: if there is a heavy fall of snow the crops are good: if not, they are bad. Turmeric and ginger are the most paying crops grown: they are grown on the high hills and table-land already spoken of, and also in the valleys where there is good irrigable land. A few square yards of turmeric or ginger is quite sufficient for a family. The cultivation of potatoes is year by year increasing; and if the people will only be careful about their seed, it ought to continue a most paying crop. Potatoes are grown either on the high table-lands or on virgin forest soil on the slopes. The cantonment of Chakráta has been a great incentive to the increased cultivation of potatoes. Indian-corn is grown always at the village doors in small garden patches. Red pepper is also grown in considerable quantities all over the parganah; opium is confined entirely to the high hills. If there are no hail and severe thunderstorms, it is a most paying crop; but it is very risky, and requires a great deal of manure. Apricot and walnut trees abound; the fruit of the former is either exchanged amongst the people themselves or sold in Chakráta; that of the latter is largely exported. Tobacco is grown in small quantities for home consumption."

System of cultivation.

According to Mr. H. G. Ross there are three distinct styles of cultivation. Rice, for instance, is grown in terraced beds made along the edges of all the rivers and streams, but seldom at levels over 3,000 feet, although some few are as high as 4,000 or 4,500 feet; another style, and the most general, is that of terraces rising one above the other up the hill side. All these terraces have to be supported by stone retaining-walls, varying from a height of four to 10 feet. The expense of making these walls is very great, in time and trouble, because the cultivators make the walls themselves. A landslip or an extra heavy thunder-shower will sometimes wash away a whole hill side of these terraces, thus either ruining the unfortunate cultivator, or involving him in fresh work for years to come. Wherever there is

any good land these terraced fields exist. There are very many little isolated plots where fresh terraces can be made and cultivation increased, but within village bounds there is nowhere a block of good untilled land in one place sufficiently large to form a separate village. Wherever it is possible, water is led on to these terraces from streams and springs: some of these '*kuls*' or small canals are carried great distances through most impracticable ground and at great expense. The third style of cultivation is carried out where the tops of the hills form small table-lands, round and smooth. *Khats* that have many such hill-tops are considered the most favoured; the soil is always good and crops better than in the terraced lands.

All the larger landholders keep ploughmen of the Dom caste—*hális*—who are serfs or bondsmen of the landholders; they receive no wages, but are fed and clothed by their masters. Sometimes they are given a little land to cultivate for themselves, but they do not acquire any right in this land; their employers defray all their marriage expenses. If one of these serfs dies, the landholder has to look after his widow, should there be no other husband and children. If the widow marries again, she goes to the house of her second husband with her children; but the master of the second husband has to pay to the master of the deceased the amount advanced by him for marriage or maintenance of children. No account is kept of the money spent in food and clothing during the ploughman's lifetime, as he is supposed to work that off; but an account is kept of all money advanced for marriage or money spent in the maintenance of young children after the decease of their father. No interest is charged on these accounts. If the ploughman disagrees with his master, he cannot leave him until he pays off the advances against him, or until he finds another master agreeable to pay them for him. The landholders wanted very much to have a set of rules about these *hális* entered in the *wájib-ul-arz*; but as the system is opposed to British ideas, Mr. Ross refused to comply with the request. The landholders have once or twice brought complaints against *hális* to compel the return of the latter; the cases have, as a matter of course, been thrown out at once, and so the *hális* must know that, if they choose, they can leave and go where they like.

The Jaunsáris are very particular about their houses: they all have double-storied houses, and in many instances three and four stories. In the lower *khats* the wood work of these houses is *deodár* procured from the higher *khats*, but the covering is slate; in the upper *khats* the roofing is *deodár*, split planks being used. The upper *khat* people say there is no slate in their *khats*, but the reason apparently is that it is easier for the people to split *deodár* than to quarry slate. They have hitherto had as much *deodár* as they could use, and so there has been no incentive to look for slate. The people drink a great deal of a kind of beer made in the following manner:—In the rains they make thick cakes of the roots of some trees and barley meal; these cakes are stored up, and when they want beer they break up one of these cakes with some cooked *china* and *sawak*, and soak the mixture in water for eight or nine days; they then strain off the liquor and drink it and also eat the refuse. In December and January a great deal of drinking goes on, many people being drunk the whole time: all kind of work is stopped, and nothing is thought of but feasting and drinking. They shut up sheep in a room and feed them upon oak leaves. Each man takes his turn of killing a sheep and feasting his

brethren. Owing to the severity of the weather there is little or no work possible at that season except looking after the cattle, and this is left to the women : the Brahmans do not, as a rule, drink.

In 1827, the products of the parganah itself were sufficient for the consumption of the small population ; but now considerable quantities of food-grains are imported from the plains. Generally speaking, the *khats* situate on the road between Mussooree and Chakráta and one large *khat* in the neighbourhood of Chakráta itself are the best; the next or average class comprises the *khats* situate in fairly advantageous positions with reference either to Kálsi or Chakráta, and the last class are those which are at a distance from markets and those which are in the neighbourhood of large forests as well as those which have but little irrigated land to depend on. The area for the extension of cultivation is limited ; but still there has been progress, the number of ploughs increasing from 2,400 in 1848 to 4,600 in 1860. Excluding the tract under Government forests, a late calculation gives the cultivated area as 18,763 acres (1,682 acres irrigated), and the cultivable area as 620 acres. The first-class land consists of manured land devoted usually to rice cultivation ; and of this 9,979 acres and of second-class land 7,112 acres were dependent on rain. The reddish clay is considered the best for cultivation and that of a darker colour not so good. The worst sort containing sand and gravel is here known as *sankráni*.

Rent-rate.

There are only two classes of rent paid in the whole parganah, one is one-third of the produce, which is given by the cultivators of the temple lands and the common village lands. The other occurs among the non-occupancy tenants of Haripur and Byás, who pay their landlords one-sixth of the produce and some minor dues. The value of the produce of an acre of irrigated land is estimated at Rs. 24, and if sown with a second crop at Rs. 40. The average revenue rate in 1872 at half rates fell at Rs. 2-8-0 on irrigated one-crop land and Rs. 4 on irrigated two-crop land ; Re. 1-4-0 on first class one-crop unirrigated land and Rs. 2 on the same with two crops ; second class dry land was assessed at Re. 0-13-4 and land allowed to lie fallow, of which one-fourth is cultivated every year, at Re. 0-8-11 on this one-fourth. These assessments varied with the proximity to markets and the general character of each *khat*. The occasional cultivation may be

classed with the culturable, and so the average rate on cultivation was Re. 1-15-0 per acre and on the assessable area Re. 1-8-0 per per acre: the figures for the whole province being Re. 1-9-7 and Re. 1-4-3 respectively. The result of the revision of settlement in 1883-84 gives a rate of about Re. 1-9-0 per acre on the cultivation. As in Kumaun, the local measurement is not in bíghas, but in a measure of capacity called a *pátha*. The *kachcha* ser is called a ser; and a *pakka* ser is two and-a-half sers and four *kachcha* sers make one *pátha* of *urd* or rice; and the quantity of land sown by that amount of seed is a *pátha*. Sixteen *páthas* make one *don*, and twenty *dons* one *khar*. At the settlement the bígha of four to an acre was used. In the local measures, the practice here agrees with that in Garhwál and Kumaon (*q.v.*) before the *bísi* was introduced there.

The following villages[1] are held free of revenue chiefly to support the Mahásu-deota, and would otherwise be assessed at Rs. 154 a year, *viz.*, Lakhamandal, Nard, Mendráth (Maindrot), Bartár, Hanol (Onol), Phartár and Chhatra.

The cultivators are either Rájputs or Brahmans, and all put their hand to the plough. In 1875, the agricultural population comprised 16,812 proprietors, the *maurúsi* cultivators of the local code, and 12,661 non-proprietary cultivators, the *ghair-maurúsis* of the code, and 10,597 labourers and others. Proprietors may sell or otherwise dispose of the lands held by them, but tenants can only dispose of their rights to the landholder whose land they cultivate. Tenants pay in cash *(khara)* or in kind *(kun)*. If a proprietary cultivator runs away, his land should first be given to his nearest relative; but if he have none, the *sayána* of the *khat* should make it over to some other proprietary cultivator. If this be not agreed to, then the *sayána* should give it to some non-proprietary tenant, fixing the quota of revenue to be paid by him. If this cannot be arranged the land lies fallow and the quota is distributed over the whole *khat*. This is to prevent any of the Dom caste getting possession of the land, and might well be expunged from the local code. If the runaway returns and desires to resettle, he can claim his land within five years on payment of arrears accrued. If the *sayána* confers proprietary rights on a cultivator not possessed of

[1] G. O. No. 872A, dated 21st March, 1874.

them (*ghair-maurúsi*), then the latter pays a fee of two rupees to the *sayána*, four rupees and a goat to the *khat panchâyat*, and two rupees to the residents of the village in which he becomes a proprietary cultivator (*maurúsi*).

People.

There have been several attempts at enumerating the people of Jaunsár-Báwar. In 1882, Colonel Young returned the number of landholders or cultivating proprietors at 2,469: in 1834, Mr. Ross gave the number of families at 829 *asámi-khudkáshts* and 2,421 *asámi-zamíndárs*; the latter numbering 17,278 souls. In 1848, the former had increased to 5,755 souls and the latter to 19,471 souls. In 1860-61 the total of both classes numbered 30,585 souls. In 1872 the returns showed 40,046 in habitants (23,114 females.) The census of 1881 gives a total of 45,117 (25,400 females). The population is entirely Khasiya, and comprises the usual divisions into Brahmans, Rájputs, and Doms. The first are chiefly Bhats or Sarasutis, the second Rawáts, and the third are Doms classed according to their occupations into blacksmiths, carpenters, and minstrels, &c. All worship Mahásu and towards the east are many who worship the Nágas. The people are interesting as showing a Khasiya population several centuries behind their brethren in Kumaon in civilisation and still preserving the peculiar customs that mark their representatives further west. The distaste for milk and the produce of the cow is a link in the chain connecting them with the people in the Indus valley to the present day, and with the Kators of Chitrál, and fortunately we have accurate records of many of their peculiar arrangements. Of the entire population in 1881 44,184 were Hindus, 726 were Musalmáns (chiefly in cantonments), 140 were Christians, 48 were Sikhs, and 19 were Jainas.

The detailed figures of the census of 1872 give the castes and their numbers. Out of a total of 39,313 Hindus 4,371 are recorded as Brahmans; 18,985 as Rájputs, and 14,500 as Doms. Of the last 2,420 are entered as Bájgis or minstrels, the attendants on the Mahásus, 3,731 as Kolis, 3,204 as Doms, 2,866 as Chamárs and the remainder as Chanáls, Lohárs, Bádis, &c., thus accounting for 37,856 out of the whole Hindu population. If we further deduct 244 Jogis and 30 Gosáins, we obtain 1,183 members of other castes chiefly of plains origin. These figures show how very truly Jaun-

sár is a representative Khasiya tract and forms a very important link between the almost completely Hinduised Khasiyas of Kumaon and their brethren converts to Islám on the ethnical frontier in the mountains of the Hindu Kush, and apparently gives customs and practices of the Khasiya race in full force at the present day which distinguished them a thousand years ago. Jaunsár is a kind of 'sleepy hollow,' within the hills in which the changes wrought in the outside world have had but little influence until the British settlement officer and forest officer came amongst them, and on these two and on the influences from Chakráta much of its future prosperity or the reverse must depend.

The local 'code.'

The manners and customs of the people are of a character very different from the Hindus of the plains. Some have received a semi-judicial sanction by being embodied in the famous *dastúr-ul-aml*, or 'Code of Common Law,' drawn up under the superintendence of Mr. Ross in the settlement of 1848. The most remarkable is polyandry, a practice declared by Major Young in 1827 to be on the decline, but which is unquestionably common to this very day. Indeed, a bachelor without brothers, it is alleged, experiences some difficulty about getting a wife. The marriage ceremony is conducted without much formality and is thus described :—

Marriage.

Only the Mia and Ráwat castes intermarry with the Kunet and Bhat castes, Brahmans, and Rájputs: the marriage ceremony is called *jhajera*. The bridegroom's father gives the father of the bride one rupee as earnest-money; the father of the young woman will give him a dinner of *puris* (cakes); this makes the betrothal binding. The bride's father having dressed the young woman in a *chola* (shawl), *dáman* or *gághral* (petticoat) and *dhátu* (head-dress) and having given her as many vessels, &c., as in his power, goes with all his relatives to the bridegroom's father's house, and the bridegroom's father gives them one or two dinners and a present. The bridegroom's father, if he declines to fulfil the contract, shall not take back his earnest-money; but if the bride's father retracts and gives the bride in marriage to any one else, he shall pay sixty rupees. When a son and heir is born alms shall be given according to the means of the parent; and if any one be in great sorrow, their relatives give them a he-goat and a rupee. If any person of low caste runs away with the wife of a respectable man, either the person who runs away with her or any person who allows them to remain in his district must pay Rs. 125, or else the woman and her paramour must leave the district. If intimacy previously existed, the man should pay twenty-five rupees through the *sayána*. If a man of respectable caste seduces a woman of respectable caste,

the fine is sixty rupees. Women are free to choose their first husbands and to leave them if dissatisfied on condition, writes Mr. Williams, "of the second husband's defraying the expenses of the previous wedding. Younger brothers legally have only the usufruct of their senior's wife, for she and her children are held to be the exclusive property of the eldest brother. Hence he keeps both women and children in the event of the household being broken up, and the rest of the fraternity going to live elsewhere. The custom of polyandry is supposed to promote good fellowship among brothers, and is (or used to be) observed so consistently that if a mother-in-law dies leaving an infant son, the daughter-in-law is, properly speaking, bound to rear the boy and marry him herself when he attains the age of puberty. A married woman is called *mami*, and *mamu* is a common salutation when addressing a person not related to the speaker. It is almost needless to add that there is a considerable amount of freedom between the sexes. Another very marked peculiarity in the habits of the people is their extreme uncleanliness, all the more conspicuous on account of the comparative paleness of their complexion and scantiness of their clothing, the nature of which is familiar to every one who has ever had occasion to make a journey to a hill station."

The local civil code is particular in the appointment of *sayánas*, and thus describes their duties:—"The head man of the *khat* or *mahál* is the *sayána*. He is to keep the landholders contented, to collect the dues of Government according to custom only, equal shares according to the capabilities of each one; to settle all quarrels; to look after the welfare of new cultivators, and to obey the orders of Government. If any cultivator does not pay his dues, the *sayána* may sue him in court, and if a cultivator run away, the *sayána* may distrain his effects, and if these means fail he may redistribute the *phant* or revenue-roll, and must send it in before 1st April in each year, so that it may be examined before the seasonal cultivation commences. On the death of a *sayána* his eldest son succeeds; and if he be a minor or mentally or morally unfit for the office, the title remains with him, and his brother or any other son of the deceased may do the work as deputy. If a *sayána* so desire he can appoint his eldest son to the office in his lifetime, but his brothers have no claim to the office because of their being landholders. The *sayána* may, however, allow them to receive a portion of the *bisaunta* or fees of office, and as a matter of fact it frequently happens that the individual shares are very small where there is a large family and some grumbling ensues: but the fees were primarily not intended as a family endowment, but as a remuneration for work done. In case of division of property, the *sayánachári* is not distributed. A younger son cannot take the title of *sayána*. If the eldest son dies with issue, such issue can claim the title, and no one else. When the eldest son dies without issue, the deceased's brother can succeed. In each *khat* there are several *sayánas*; but he whose authority extends over the whole *khat* is the head *sayána* and his village is the *khúnd* village. The *sayána* may be dismissed by Government for injuring the revenue, acting contrary to orders, oppressing the cultivators, wrongfully levying fines, &c. In such a case, the person who has the next best claim and is suitable for the office will, if approved by the superintendent, be appointed. Should a *sayána* desire to resign, he can do so thus:—First he resigns his claim to his brother, then to any other person; but the rightful owner cannot

se it so as to destroy the rights of the next person. In many *khats* there is in each village an officer called *chakráuta*, to whom the *sayána* from his own share gives one or two rupees, or at the termination of any suit makes the landholders pay him something. The *chakráuta* works under the *sayána*, who may dismiss him and appoint another. If a *sayána* have to attend the court at Kálsi or elsewhere, he is entitled to a cooly as a servant and another to carry a load: he also receives a ser of flour from each landholder. In lieu of other dues, the *sayána* receives a cess of five per cent. and half an anna in the rupee on the total revenue paid by his *khat* to cover his expenses when employed on the business of the *khat*.

Sale and mortgage.

If a proprietor wishes to dispose of his land he must first, through the *sayána*, obtain permission of the shareholders in his village and also of the proprietors in the *khat*. If a person of his own *khat* desires to purchase it, he cannot sell to a stranger. In either sale or mortgage the person in possession is responsible for the revenue. In deeds of mortgage there must be a clause declaring that only the *zamíndári* rights are mortgaged, not the land itself; but when the mortgagee takes possession, he is only entitled to it until his claim has been satisfied by usufruct or otherwise, or until the time agreed on has elapsed. The mortgagor is also responsible for the revenue and all changes of possession must be entered in the *phant*. The mortgage can be completed only by permission of the *sayána*. No period is usually fixed, and no fees are paid except four annas for the deed which is registered by the patwári. In cases of sale, fees are paid to the *sayána* and attesting witnesses. In regard to bargains it is unusal to exchange written documents. If a dispute arises and the debtor denies the whole debt, the creditor has to swear to it in the name of his deity; but if the debtor denies only a part, the creditor takes that part and makes an oath as regards the remainder. As regards interest, the debtor has to give eight *pukka* sers of corn at each harvest (called *kut*) for each rupee until the original sum is paid up. If the debtor becomes insolvent, the creditor takes the original amount and foregoes the *kut* or takes double the principal in coin. With regard to grain debts, the custom is that for one year, the original is increased by one-half, and in the second year the accumulated amount or whatever remains unpaid of it is increased by one-half. If the debtor becomes poor the debt is measured by three times the original amount. In Chhartári, Maleta, Kothi, Rangau, and Haripur the entire family of the *sayána* is entitled to participate in the fees. One person is made sadr-sayána and all the others are *sayánas*. All the cultivators are *ghair-maurúsis* and have not the power to sell their holdings, and the *sayána* can make them cultivate their lands or take the land away.[1]

Distribution of property.

On the death of a cultivator, leaving a widow and young children, if the widow takes to herself another husband, he can claim the tenure of her first husband as a hereditary tenant but in such cases it is customary to make a settlement to this effect in writing:— Two-thirds of the land so taken over shall belong to the children of the former husband and one-third to any children born of the second husband; if, however, a cultivator should at his death be in debt and have no heirs, then whoever takes

[1] The rules of the '*dastúr-ul-aml*' were incorporated in the engagement papers for each *khat*, but have since been modified.

possession of his effects is liable for and must pay his debts. If four brothers have two or perhaps one wife between them, and four or five daughters are born, and one of the brothers marries again, the children are not shared between them, but remain with the woman and the woman cannot go to the younger brother, but must live with the elder ; but the children are entitled to equal shares from the four brothers, which are paid to the elder. If they separate, the elder brother bears the expenses of the marriages. Goods are divided thus :—After deducting one thing of each kind and one field for *pitans*, *i.e.*, rights on account of seniority and half of that field (*kanchu*) for the youngest, all the rest are divided equally among them. But if there should be any self-acquired land (by purchase, mortgage, &c.) or if there be encumbered land, it is also divided. The *sayána* distributes the shares and receives one sheep, one goat, one dish, one weapon, and five rupees. The *panchâyat* receives five rupees and the villagers two rupees. But if they are poor no fees are levied and none are paid on cattle. If the mother or father be alive, the children with whom they live must provide them wtth a cow, plate, clothes, *budlen currie*, but if there are two fathers or mothers, the second receives nothing. If any man has three wives and they have children in unequal numbers, *i.e.*, if one have two and another three, at the time of sharing, the children all receive equal shares except that the son with whom the first mother has to live receives a little more. If two brothers have one wife and have two children at the death of the wife, and both brothers marry again, and after the marriage the elder brother dies leaving four sons at the time of sharing, after deducting the half of the whole property for the children by the first marriage, the remainder is divided into six equal shares ; from these six shares two more besides the half previously deducted are given to the children by the first marriage. Daughters can claim no share in the paternal property ; only the following is the custom :—that the father should provide whatever is necessary for the marriage ceremonies, and if he have any grown-up brothers he should get them married.

Decision by oath.

The system of deciding cases by oath in temples or elsewhere noticed under Kumaon prevail also here. One of the rules of the local 'civil code' runs as follows :—"If there should be a quarrel with any other *khat* about boundaries, it is settled either by *panchâyat* or by making oath, but it is settled by oath only where it cannot be settled by *panchâyat*. The person in possession should take the oath, and if the *sayána* is interested he must take the oath, and in case he should refuse the opposite party should be given the oath. Any quarrel about the lands in each *khat* is settled in this way." Owing to the evils inherent in such a system it was added that all decisions arrived at should be reported in fifteen days to the Superintendent and also any objections, in default of which the decision would be maintained. That this practice has a bad effect on the people themselves is shown by the following extract from a recent report:—

"Whenever the *sayánas* settle a dispute relating to land, they should also be obliged to record their decision in the patwári's register, and if the custom of deciding cases by oath could be entirely abolished, the parganah would be much benefited. Under the rules of the "*dastúr-ul-aml*" decision by oath was only allowed when no other mode of settling a dispute could be found; but in practice arbitrators invariably record in their decisions that the party in possession should take oath to confirm his possession and this practice tends to keep up ill-will for ever. I have done all in my power to discourage oaths, never allowing them to be taken when I could avoid it, as when an oath has passed between two parties, if anything happens to the person who took it, his adversary always declares that he took a false oath, and it is a sign of displeasure on the part of the gods, and for fear of further manifestations of their displeasure he at once relinquishes the land or property. The opposite party, however, is equally unable to take possession, and so the land, if that was the subject of the dispute, is left to lie waste. There is a similar superstitious custom by which the wrath of the gods is invoked against an enemy. If a man has a grudge against any one, he takes up some earth out of his enemy's field and lays it at the shrine of one of the gods with prayers and offerings. If after that any misfortune happens to his enemy, it is looked upon as a sign of displeasure on the part of the god, and the poor man has to relinquish the field and let it go to waste. These disputes are carried to such an extent that generations after the oath has passed they are recollected, and I could mention instances in which the parties or in case of a boundary dispute the whole *khat* will not eat or sleep in their opponent's village. I was the more particularly struck with the inconvenience resulting from this practice when the question of establishing schools was first brought forward, as I found that the boys from one *khat* were not even allowed to attend a school in their enemies' village; and to show the length to which this is carried I may state that though in years long gone past there was a dispute over the boundary of two *khats* which has just been settled amicably before me, yet still the remembrance of the old oath remains, even though the parties are now on friendly terms, at least ostensibly so."

Mahásu.

An oath by the Mahásu at Hanol is the most solemn that can be taken. A custom now prohibited, but which is proved to have existed by many a ruined house and waste field, was that in cases of disputed possession a party took a stone from the field or a portion of the mud from the walls of the house and offered them to Mahásu, with the result that no one could cultivate the field or occupy the house—a very convenient way of annoying one's enemy. Another custom mentioned in the local code is that where the Mahásus ordered the land or house to be freed, this order was made known by the Mallas who came from Garhwál for the purpose. Some account of the Mahásu has been given elsewhere.[1] There were four Mahásus—Básak, Pibásak, Baitha, and Chalta. The first three

[1] Gaz. XI. 836.

live in temples, the last moves about from *khat* to *khat*. The principal temple is at Onol or Hanol on the left bank of the Tons in Báwar at the north of the parganah. There is a second at Tahnu in *khat* Panjgaon to the east of Kálsi at the south and a third at Anwar; whilst the fourth taking up his head-quarters in Bairat in *khat* Koru perambulated the parganah. Básak and Pibásak have migrated to Tihri, and Baitha and Chalta are now the Mahásus of Jaunsár-Báwar. Mr. Williams gives another account of the origin of the worship of Mahásu :—

"According to Brahmanical traditions, at a remote era of time, a man ploughing in the parganah of Bukan (now Deoghar) saw a snake, which, erecting itself before him, said, I am sent by the Divinity raise near this place an image to be worshipped; call it the Mahásu deota and it will reveal to you laws that are to be obeyed. On learning this vision of the cultivator, some Brahmans made an image and placed it in the field where the snake had appeared, and after some time had elapsed it was inspired to give them the following instructions, the observance of which secure the devout from the evils of the present world and insure their happiness in the next, *viz.*—

First, never to sleep in a bed with four legs. Second, never to drink pure milk. Buttermilk is permitted, but it is meritorious to abstain from eating the butter, it being more praiseworthy to burn it at the places appointed for the worship of the Mahásu deota. Third, always to sacrifice the finest goats at the demigod's shrine, and if similar sacrifices elsewhere be abstained from—so much the better." Mr. J. B. Fraser mentions a temple at the village of Bankauli, not far from Lakha Mandal, in *khat* Baundar, sacred to Mahásu, whom he considers identical with Mahádeo. He describes the shrine, however, as being built on a Tibetan model."

The Onol temple is about forty miles from Kálsi, and is now the head-quarters of Baitha and Chalta. The latter used to visit Jaunsár and Jubal alternately staying for twelve years in each, much to the annoyance of the people. Mr. Williams tells us that with the Mahásu came fifty to seventy attendants, besides dancing-girls and others. It was, however, necessary to invite him through his Wazír, and such was the dread of his wrath that an invitation was seldom wanting. On receiving the invitation the deity was placed in a *palki* covered with silver and after certain ceremonies was escorted by crowds of worshippers to his new residence. Those unconnected with the deity were only fed for one day, but the regular attendants seldom remained less than six months or as long in fact as they received entertainment.

To defray the cost of the entertainment, collections had to be made from the different *khats* in the division at the rate of eight annas a house or more, according to the means of the proprietors. Many other contributions were also exacted, such as *ghí*, goats, supplies of various sorts, amounting altogether to a heavy tax upon the people, who attributed the occurrence of an accident in any village to the indignation of the unpropitiated Mahásu. To check these exactions, Major Young passed a summary order at Kálsi, in the presence of the assembled *sayánas*, banishing the *deota* and his attendants from Jaunsár-Báwar, and also commanded the Wazír to abstain from accepting any invitation on the part of Mahásu without the sanction of Government. In a recent report it is, however, stated that it continues to give trouble to this day.

The Wazír of Mahásu.

The first Wazír whose name is on record was Rup Sinh[1]. He died at Bastíl in 1826, leaving two sons by different mothers. Both pretended to succeed to the Wazírship. Their conflicting claims caused two factions, and the dispute was referred to Major Young for decision. He decided the case in favour of Ugar Sen, the elder brother, but the adherents of the younger, Ram Náth, on their return to Bastíl, repudiated the judgment and sent an invitation to the Mahásu, who made a visitation to the Kandi division, which materially interfered with the settlement recently concluded. The fine and imprisonment of the principal offenders put a stop to their excesses. The present Wazír, Karan Singh, resides at Bastíl; he has fallen into evil courses and is held in small respect, not being even entitled to the compliment of a chair. It is, however, said that were he to reform, he would be, like the older members of the family, venerated as much as the deity himself.

Language.

The dialect of Jaunsár is almost unintelligible to the people of the plains and is akin to the *patois* spoken in the neighbouring states of Tíhri and Jubal: thus:—*gád*, 'a stream'; *pujhar*, 'wood'; *nyar*, 'grass'; *chiskiya*, 'burned'; *hanuwa*, 'to walk,' are words unknown in the plains.

There is little education, though a few schools have been established; the people, however, are anxious that their children should be taught, and a cess has been levied to provide a school in each

[1] Mr. William's note.

khat. There are numerous applications for schools; but until further funds exist, there is little hope of establishing a sufficient number; and without education the people must remain behind the rest of the British hill districts. In this respect as in others the contrast is not advantageous for the administrators of Jaunsár when compared with Garhwál and Kumaon, and one can well understand the complaints of the people that though a cess has been levied for the purpose, most of the *khats* have still no schools. There is no jail and no police. The lock-up at Chakráta and Kálsi serves for the one and the *sayánas* for the other. Roads are still urgently wanted all over the parganah. The establishment of Chakráta has given it a good road from Kálsi, and has also been the means of keeping that from Mussooree to the cantonment in good repair, and the forest works on the Tons have necessitated the making of a good road from Chakráta to the borders of the district in Báwar. There was a line of road cut from Chakráta to the Tons on a direct line to Simla by Mr. F. Williams; but although the road would be very useful if the Panjáb Government would agree to make their portion of it, still it is not required on its projected scale so far as the district wants are concerned. The remaining roads such as they are can barely be kept in order with the funds available, and four feet or six feet paths might be multiplied all over the parganah with advantage.

Fiscal history.

Jaunsár-Báwar[1] came with Dehra Dún into the possession of the British in 1815. The first settlement was made by Captain Birch for 1815-16 to 1817-18 at Rs. 16,247 a year, exclusive of miscellaneous revenue, customs, and transit dues collected at Kálsi, and amounting to Rs. 1,753. Captain Birch was succeeded by Captain Ross, who made the second settlement from November, 1818 to October, 1821 at Rs. 15,703 for land-revenue and Rs. 1,298 for customs. Captain Young took charge in April, 1819, and in 1821 made the third settlement, which was also for three years, from November, 1821 to October, 1824, at the same rate as before. This settlement appears to have worked well, as no coercive measures were necessary for the realisation of the revenue demand. The fourth settlement for 1824 to 1827 was fixed at Rs. 17,282 for land-

[1] From Mr. G. R. C. Williams, B.C.S., Memoir on Dehra Dún.

revenue and Rs. 1,419 on account of customs and included Rs. 1,485 due to the chauntras and *sayánas* noticed hereafter. This settlement was extended for a further period of two years, and at its conclusion, in 1829, Major Young made further proposals for a new settlement. Before taking up this settlement we must refer to the peculiar machinery existing in Jaunsár-Bawár for the distribution and collection of the land-revenue which, though in many respects similar to that found in Garhwál at the conquest has many features peculiar to itself; and for this purpose we shall avail ourselves chiefly of Mr. Williams' careful summary.

Chauntras and *sayánas*.

The hereditary indigenous revenue officers constituted the machinery not only for collecting but for distributing the revenue. The parganahs of Jaunsár and Báwar were divided into *khats* or collections of villages, at the head of which were officers termed *sayánas* similar in every respect to the *sayánas* of Garhwál and the *kamíns* of Kumaon. The four most influential *sayánas* were called *chauntras*, and formed a conclave (*chauntru*), to which was submitted the gross sum assessed on the parganahs as revenue. This they distributed over the *khats*, and the *sayánas* of each *khat* re-distributed the sum allotted to the *khat* over each village within his jurisdiction. The village *sayánas* again fixed the sum to be contributed by each proprietor within the village. All were then jointly and severally responsible for the entire assessment.

The entire community had one mahájan or banker, Din Dayal Ram, resident at Kálsi, who became their surety (*málzámin*) for the punctual payment of the revenue on the appointed day. The surety paid up the revenue and debited the sum due by each proprietor to him as a personal account with interest from the date fixed for payment without reference to the date when the money was actually paid, and this was considered a lawful perquisite of the office. The *chauntras* were not only revenue officers, but had also civil and criminal jurisdiction, having "plenary power to flog, imprison, multilate, and execute" up to a very recent date. As revenue officers they received salaries of Rs. 40, Rs. 60 or Rs. 100 a year. The *sayánas* of each *khat* had similar powers in a lesser degree within their own *khats*, and enjoyed an allowance of five per cent. on the collections as *bisaunta* similar to the lambardár's

fees of the plains. The emoluments of the surety were considerable: he had a quarter anna per cent. or one month's interest on the gross revenue termed *ganth-kholai* or fee for opening his money-bags, besides interest at the rate of Rs. 18·12 per cent. per annum on each of the four annual instalments calculated as due six months before the actual date of payment.

Such was the administrative machinery; and after consultation Major Young recommended that a proposal made by the *chauntras* to give Rs. 1,000 additional as land-revenue and to furnish 300 men daily for eight months to complete a road to Bastíl from Kálsi should be accepted, and on this basis the fifth settlement from 1829 to 1834 was concluded, giving a land-revenue of Rs. 15,354 and a decrease of Rs. 505 in the customs. The next settlement for 15 years (1834-35 to 1848-49) was also the work of Major (now Colonel) Young, then also Superintendent of the Dún, at a revenue of Rs. 21,412, including customs and cesses. The land-tax amounted to Rs. 16,280. There is nothing on record to show how any of these settlements were made. The several officers appear to have made nothing more than a rough estimate of the capabilities of the parganah, and this being accepted by the *chauntru* was distributed over each *khat*, the *málzámin* at Kálsi collecting and paying in the revenue on due date to the tahsíldári.

Quarrels.

Previous to the annexation of this parganah to the Dún, an officer styled diwán was stationed at Kálsi, who performed all the duties of an amín and tahsíldár. To Bákir Ali, appointed diwán in 1818, Colonel Young attributes "the flourishing and orderly state of the parganah," and on Bákir Ali's obtaining the appointment of tahsíldár at Dehra in 1830, Colonel Young recommended the abolition of the post of diwán at Kálsi. At the same time Din Dayal Rám, the old surety for the revenue, died, and between his son Kirpa Rám and the *chauntras* a fierce quarrel arose with no independent local officer present to interpose his good offices and settle their disputes. These matters came to Mr. Vansittart's notice in 1844, and he removed Kirpa Rám from office, who was again restored by Mr. A. Ross in 1846. On this the *chauntru* or assembly of *chauntras* demurred and set up a rival surety. They were met by an order from the Superintendent declaring them relieved of their functions for the time being.

The *chauntru* not only continued their opposition, but exacted a large sum of money to pay their expenses to Agra in order to appeal to the Lieutenant-Governor. This, with a visit from the deity Mahásu, whose Wazír was at this time particularly exacting, induced the people to listen to the remonstrances of Mr. Ross when he visited the parganah in 1849. The Governor-General happened to pass through the parganah in the same year, and was beset with complaints from the two factions and from the people themselves against both. The surety was accused of ruining the country by his exorbitant charges for interest and the *chauntru* were accused of unfairly assessing their own good *khats* and transferring the burthen to the other and poorer *khats*, which eventually involved them in debts which they could not pay off. To remedy this state of things a redistribution of the land-revenue became necessary, and arrangements were made by Mr. A. Ross to this end. The net land-revenue now stood at Rs. 18,006, to which was added Rs. 750 on account of roads and the items comprising the *bisaunta* or *sayáná* dues, making a gross assessment of Rs. 19,750. The *kárkun* or village accountant's fees were fixed at Rs. 617, and those known as *ganth-kholai* at Rs. 293, so that the total charges of every description amounted to Rs. 20,660,[1] which eventually fell to Rs. 19,953. A regular settlement was made after an inquiry into the condition of each *khat* and its villages: the power and duties of the *chauntru* were abolished, and the management of each *khat* through its own *sayána* was established. These officers' allowances were confirmed at five per cent. on the collections as a remuneration for their trouble. The debts due to the surety were paid or remitted, and in future the landholders were to be relieved from the payment of the interest in anticipation hitherto a perquisite of the surety. The fiscal duties

[1] The actual charges and receipts in 1848 are thus given :—

Charges.		Receipts.	
Hak-bisaunta.	Rs.		Rs.
Sayánás salary	1,000	Revenue -	20,000
Chauntras' salary	400	Deduct charges	3,666
Road allowance	1,000		
Regular establishment ...	894		
Patwáris	180		
Peons	192		
Total ...	3,666	Net revenue ...	16,334

of the *chauntru* fell on the *sayánas* of the *khat*, and the joint responsibility of each sharer for the payment of the revenue was limited to his own *khat*, which became, in fact, a *bháyáchára* estate. The establishment was also reduced from Rs. 1,900 to Rs. 1,776 per annum. All these arrangements were subsequently sanctioned by Government, with the exception that the road allowance was raised to the original amount.

Dastúr-ul-aml.

At the same time Mr. Ross drew up a code of law and procedure for the use of the local *panchávats* in administering justice among themselves. This was compiled from the customs and traditions current amongst the people, only making alterations when these were repugnant to morality and common sense. Provisions, for example, were introduced prohibiting the practice of compounding felonies or the disposal of cases of felony, especially murder, by the *sayánas;* the accusation of witchcraft was made a punishable offence, as well as the practice of cursing the ground from motives of revenge. It states also the general principle that the revenue is fixed on the general resources of the landholders as well as of the land, on the number of sheep, goats, plough-cattle, labourers, quantity of land and its produce, walnut-trees, apricots, honey, &c. All trees are the property of Government, except a few near villages, which were included in the *chaks* and were planted by the landholders. The landholders have power to cut wood for making ploughs, houses, or for their own private use as firewood, but are not allowed to sell it; and those in whose *khats* there is no *deodár* are allowed to bring it from the *khats* they have been accustomed, subject to the same conditions, and the persons from whose *khats* the wood is taken are not allowed to charge for it. They have a complete right to all grass and jungle and wild drugs and grazing rights. But other rights, such as mines, belong to the State and no one without permission can bring under cultivation waste land not included in his *chak*, and Government has the right of selling and letting that land to whomsoever it pleases. The new agreement paper states specifically the boundaries of the village and State forests which are all now demarcated by permanent boundary pillars.

During the currency of this settlement the *khats* relieved themselves from debt, but still the state of the parganah was

generally so unsatisfactory that at its expiration, in 1859, it was not deemed advisable to raise the revenue, but merely to redistribute it again with the help of a block measurement of the cultivation. This, the eighth settlement, was effected by Mr. J. C. Robertson in 1859 for the years 1860-61 to 1870-71. It is remarkable because no attempt had ever before been made to measure the cultivation. The result of a plane-table measurement gave a total cultivated area of 21,603 acres, of which 164 acres were held revenue-free. The gross revenue was fixed at Rs. 21,525, from which should be deducted *bisaunta* or *sayána's* allowances, Rs. 1,042 ; *takína* or the allowances of *kárkuns*, or village accountants, Rs. 1,830, and Rs. 1,000 for the repair of roads, leaving a net revenue of Rs. 18,695, which at the end of the settlement was Rs. 19,678. The surety's allowances and office were then altogether abolished. The revenue assessed in 1859 was collected without difficulty. In only one *khat* was it necessary to have recourse to any measure for enforcing payment and here it was due to embezzlement on the part of the *sayána*.

Ninth settlement.

The next revision of settlement took place in 1870-73, and was made by Mr. W. Cornwall. The great feature of this revision is the demarcation of *khats* and their boundaries, especially in connection with the Government forests. The Resolution recites :—

"Under native rule the respective interests of the State and the people in regard to forest rights had never been clearly defined; and up to 1865 matters had been left very much to themselves in Jaunsár-Báwar, in consequence of which the forests suffered greatly. In 1869, the forest lands were divided into three great classes: from the first the villagers were entirely excluded; in the second they were allowed rights of grazing, fuel, and reclamation; while the third class was handed over to them under the condition that no alienations were to be made under any circumstances.' The *sayánas* protested strongly on the ground that under this arrangement they had no guarantee of future enjoyment. Accordingly the Government of the time directed that all land not likely to be needed for forest purposes should be made over unreservedly to the *khats*; under the third class, forest land should be held to appertain to the respective *khats* under the proviso of non-alienation. This necessitated a fresh demarcation of forest boundaries, which was effected in 1873; but it was not till 1874 that the '*phantbandis*' or detailed demand statements were finally prepared and assented to, and that the revised demand came into operation."

The cultivation also was measured and maps were prepared on the scale of one inch to twenty yards, similar to those that were

made in Kumaun. With these were indices showing the area of each field, the holder and the demand payable by each sharer. The result of this revision was a total revenue demand of Rs. 26,181, which with cesses amounted to Rs. 29,495 at the end of the settlement, the previous demand being Rs. 19,695, thus giving an increase of one-third. The terms of the *wájib-ul-arz* were revised, and many of the unnecessary conditions of the old *dastúr-ul-aml* were omitted and others were revised.

Under the previously existing arrangement the *sayána* distributed the quota of the revenue, as already explained, over the *khat*, and the village *sayána* over each village. Whenever the revenue-payer left his *khat* or through misfortune of any kind was unable to pay the revenue assessed, this was distributed by the *sayána* among the other cultivators; while any person dissatisfied was allowed to appeal. The new arrangements provided also for a report by the tahsíldár on all items in the *phántbandi* or revenue-roll differing from the distribution of the previous year which should be sent to the Superintendent for orders before April, so as to give time for a proper inquiry before the agricultural operations of the year commenced. This was the principal change[1] introduced in the fiscal administration by the settlement of 1873.

Patwáris or village accountants were substituted for the *kárkuns* of the old arrangement, and a cess was levied to support them. On the whole the attempt to follow out the procedure adopted in the plains was not a success; and here, as in Kumaun, the resolution to insist on regular rent-rates, revenue-rates, and classification of soils resulted only in failure, gave an infinity of trouble, and left behind it not a single statistic on these subjects that could be relied upon. The country, the people, and the crops differ from the plains and its people to such a degree that no useful object can be attained by compelling both to follow exactly the same lines in detail. Here other matters exercise a considerable influence, population, aspect, nearness to forests, and the proportion of table to terraced lands. As observed by Mr. H. G. Ross, a village may

[1] The five *khags* of Báwar were each made into a separate *khat* or sub-division; and the office of *sadr-sayána* was abolished until now held by the Wazír of the Onol temple. Mr. Cornwall sent in his report (No. 109), 10th March, 1873, and Mr. H. G. Ross sent in a supplementary report (478), 19th December, 1874, but these were not taken up, and orders were not issued until (No. 917), 1st June, 1880, confirming the settlement for ten years.

have excellent land, but without cultivators it is of little use. The very best soil with a southern aspect will not produce crops equal to those on inferior soil with a northern aspect; a village with inferior land and possessing a good head of cattle or able to collect leaves from a forest will have finer crops than a village with superior land, but without these advantages for manure; again, there are dry hills and moist hills, and the latter produce far the better crops, though there is nothing to show whence the moistness comes and there is no difference in the soils. The *sayánas* refused at first to sign the engagement papers, but after some explanation that was done.

Tenth settlement.

It was soon seen that the assessment of 1873 pressed heavily on several *khats;* and in 1883, Mr. H. G. Ross was deputed to revise the settlement, accepting the records of the past and his personal experience as the basis of his proceedings. The assets on which the revenue was assessed by him were (*a*) the land; (*b*) the cattle; (*c*) occasional or temporary (*khil*) cultivation. To the first he applied the provincial average of Re. 1-9-7 per acre on cultivation and Re. 1-4-3 per acre on the assessable area. To the second, in lieu of a grazing cess, he applied half the Dún grazing rates—two annas per buffalo, one anna per cow, and one pice per sheep or goat. Taking these rates with an additional rate for occasional cultivation, he worked out a maximum demand on each *khat* which should be worked on as the extreme margin to which the revenue may rise, but which local circumstances should be allowed to modify. The result of the revision was that out of a total of 38 *khats* Mr. Ross reduced the revenue in 15 and left 23 untouched. The previous demand for the whole parganah was Rs. 29,495, and this was reduced to Rs. 27,495 and confirmed by Government for twenty years.[1] The details of the statistics then collected have already been given. Another matter connected with this settlement is the preparation of *phard-phánts* or standard revenue-rolls distributing the total assessment over the villages and cultivation within a *khat,* whilst leaving the responsibility of the whole *khat* for the revenue untouched. This may be changed by variations in area of cultivated land, in number of adult male cultivators or number of cattle, but it

[1] G. I. (R. A.), 119R, 8th February, 1884.

will serve as a guide to officers hereafter when disputes arise with the *sayána* regarding the distribution of the *khat* assessment. The *sayánachári* system, too, was retained.

There were twelve patwáris, which were now reduced to three, one for Báwar and Lohkandi and two for Jaunsár; and one kanúngo, a descendant of Lala Din Dayal, the former málzámin of Kálsi. Amongst the descendants of the chauntras are two—Debi Singh, *sayána* of *khat* Udpálta, and Jwála Singh, *sayána* of *khat* Samálta—who long ceased to take any interest in the parganah or afford any assistance to the local officers. For the descendants of the other two chauntras—Ram Das, *sayána* of *khat* Koru, and Moti Ram, *sayána* of *khat* Seli—Mr. Ross obtained a grant of Rs. 100 each for life, with the title of *chauntra*, in recognition of their past services, renewable in either case to a direct heir who is reported qualified and to be a suitable person to whom the grant may be continued. Arrangements, too, were made by which the forest rules where they pressed hardly were relaxed, and provision was made for the requirements at Chakráta for fuel and proper forest conservancy, without undue or unnecessary restriction of the privileges of the villagers.

Administration.

From 1815 to 1829, the parganah remained in charge of one officer immediately subordinate to the Governor-General's Agent at Dehli, and who had certain civil and criminal powers, aided by the *chauntru*. When Regulation V of 1829 rescinded Regulation XXI of 1825, the parganah administration fell into the same state of confusion as that of the Dún, and, in 1830, it was formally placed under the Superintendent of the Dún. The subsequent history must be given in Mr. Williams' own words:—

"Years after, Act XXIV of 1864 vested the administration of justice and the collection of the revenue in such officers as the Lieutenant-Governor might appoint who were to be guided by the rules framed for the Tarái district under Act XIV of 1861. Notification No. 1170½A, dated 29th April, 1864, supplemented the Act investing the Superintendent with the general administration of the sub-division, and empowering him to assign to his assistants such executive, fiscal, or judicial duties as they might be qualified to discharge, in subordination to the Commissioner of Meerut. The

functionaries to be employed in the administration of civil justice were the assistants to the Superintendent, the Superintendent himself, and the Commissioner of Meerut; in the administration of the revenue and criminal justice, the tahsíldár of Kálsi, the assistants, the Superintendent, and the Commissioner. The previous resolution defined the powers of these officers and procedure to be observed by them. The Superintendent received authority to try original suits without limit of value and hear regular appeals from the decision of his assistants, who had power to try original suits not exceeding 1,000 rupees in value, while a regular appeal lay from the Superintendent to the Commissioner, and where the two latter differed, Government had the option, if petitioned, of referring the point at issue to the decision of the Sadar court (now High Court). A special appeal also might be made to the Commissioner from the decision of the Superintendent in regular appeal.

Civil jurisdiction.

The tahsíldár could only try petty criminal cases made over to him by the Superintendent, nor did his powers extend beyond the infliction of 50 rupees fine or a sentence to six months' imprisonment. The assistant likewise, unless specially empowered, was restricted to the trial of cases so referred, and his powers only extended to the infliction of a fine of 100 rupees or a sentence of twelve months' imprisonment. The orders of both were appealable to the Superintendent, who had the ordinary full power of a Magistrate of district. Appeals lay from him to the Commissioner of Meerut, who was also empowered to revise the proceedings of any subordinate authority, and to him all cases of a more heinous nature were to be committed for trial; but in those of murder and all others demanding a more severe punishment than fourteen years' imprisonment, his sentence could not be carried out without the concurrence of the Judge of Meerut, or, in the event of a sentence of death, without the confirmation of the Nizámat Adálat (now High Court).

Criminal jurisdiction.

The suits cognisable in the revenue courts were divided into two heads, summary and regular. The summary suits were thus classified: (1) suits by *málguzárs*, &c., against tenants or of tenants against sub-tenants, for arrears of rent; (2) by *lambardárs* against under-sharers for arrears

Revenue jurisdiction.

of revenue; (3) by *málguzárs*, &c., against agents for production of accounts and recovery of money due; (4) by farmers of excise duties against licensed manufacturers and vendors for recovery of arrears due on sub-contracts; (5) by cultivators and tenants against málguzárs, &c., and of under-sharers against lambardárs for undue exaction of rent or revenue; (6) of same against the same for illegal dispossession, actual or attempted. The period of limitation fixed for the institution of suits under clauses I, II, III, IV was twelve months, and for the institution of those under clause V, VI, sixty days. The regular suits were defined to be: (1) suits about the *málguzári* right in land, or the right to registered revenue-free land, or land held on a quit-rent, or claims to share in the profits or rent of such land or in manorial privileges not reserved to Government; (2) summary suits (as classified above) when from lapse of time, or on other grounds, they cannot be tried in the ordinary way; (3) suits by *málguzárs*, &c., for rent of land held in excess of or contrary to lease; (4) suits by the same to oust tenants-at-will not in default, at the end of the year, or at the expiration of a lease; (5) suits by the same for enhancement of rent. Regular appeals from the revenue courts under the Tarái rules lie solely to the Commissioner, and in the case of summary suits only on the question whether the issues raised are fit to be tried summarily or not, his decision on the latter point is final. In regular suits a special appeal lies from his order to the Board of Revenue.

Police.

A regularly-organised police under Act V of 1861 was not introduced. The people themselves were, as heretofore, to extemporise a rude constabulary in case of necessity, and the Superintendent, being immediate head of the police, was to be guided by the spirit of the old Regulation XX of 1817, or by its provisions, wherever applicable. As a matter of fact crime in the parganah is almost unknown: of theft there is little or none; and as the people are not of a jealous disposition in regard to their wives, murder or crimes of violence seldom occur.

Cantonment Magistrate.

The appointment of a Cantonment Magistrate to Chakráta under Government Order No. 415, Judicial (Criminal) Department, dated 2nd April, 1869, subsequently suggested some modifications in the judicial

system. By Notification No. 1393A, dated 19th September, 1872, the Lieutenant-Governor, in virtue of the authority vested in him under section 2, Act I of 1865 (the Acts and Regulations Extension Act), extended the operation of the Code of Criminal Procedure (Act XX of 1861) to Jaunsár-Báwar, and under sections of the same Act the Superintendent of Dehra was invested with the powers of a District Magistrate in the parganah, the Cantonment Magistrate of Chakráta with the local jurisdiction of a sub-divisional Magistrate under section 230, Code of Criminal Procedure, and the powers of a Magistrate as defined in section 132 under section 234, Jaunsár-Báwar being declared a sub-division nnder section 18; the Judge of Saháranpur with the powers of a District and Sessions Judge within the parganah under section 2 of Act XIX of 1871 (the Bengal Sessions Court Act). A Resolution of the same date (No. 427A) extended to the sub-division the operation of the Code of Civil Procedure (Act VIII of 1859, as amended by Acts XXIII of 1867 and IX of 1863). Under section 2 of the same Act the administration of civil justice was vested in the náib-tahsíldár of Kálsi with powers of a Munsif for the trial of suits up to Rs. 300, the Superintendent of the Dún with powers to hear appeals from the Munsif and decide suits above Rs. 300 in value, and the Commissioner of Meerut with final appellate powers from the decisions of both. In his capacity of *ex-officio* Assistant Superintendent, the Cantonment Magistrate is the chief police officer of Jaunsár-Báwar and all offences are reported directly to him, while the náib-tahsíldár is a subordinate through whom cases are worked. He is also sub-registrar of the parganah, as well as Small Cause Court Judge, with powers to try cases where the cause of action does not exceed Rs. 200 within the limits of the cantonments.

Jolabugr, a halting-place on the left bank of the Pindar river in patti Pindarwár and parganah Badhán of British Garhwál, distant 10 miles from Dungari and 14 miles from Baijnáth, on the route by the latter place to Nandprayág. The encamping-ground is on a flat piece[1] of waste land close to the river's bank. The road hence to Dungari lies along the left bank of the Pindar, gently undulating to Tharáli, where there is a baniya's shop, and

[1] A *bugr* or *bagar* means the flat ground on the banks of a stream used for cremation purposes and is equivalent to the *ghát* of the plains.

supplies are obtainable. The Pindar is at present crossed here by a *sanga* of rude construction and in the rains by a rope-bridge or *jhula*. Thence the road ascends the glen of the Goptara-gadh through a close forest of *chír* to Dungari about six miles. An iron-wire suspension bridge is about to be erected here further down the stream. At Naráyanbugr there is one of these bridges passable at all times by ponies. In the cold weather the Pindar is usually fordable, except immediately after rain.

Joshimath, or **Jyotirdham**, the place of the great Jyotir *ling* of Mahádeo, is situate in parganah Painkhanda of Garhwál in north latitude 30°-33′-24″ and east longitude 79°-36′-24″ at an elevation of 6,107 feet above the level of the sea, and about 1,500 feet above the confluence of the Dhauli and Vishnuganga and some one and a half mile below it. The population in 1872 was 455, and in 1881 was 572. The site lies on the left bank of the united streams, here known as the Alaknanda, in a hollow recess and on a declivity descending from the Trisul peak, and is sheltered on every side by a circular ridge, and especially to the north, where a high mountain intercepts the cold blasts rushing from the Himálaya, rising in that direction. The entrance to the town is up a bank cut into steps faced with slate or stone, with both which materials the streets also are paved, but very irregularly. The houses are neatly built of grey stone and are roofed with shingles or slates. Amongst them are the well-built residences of the Ráwal and other priests of the Badrináth temple, who live here from October to the middle of May, during which time the approaches to the temple that they serve are buried under snow. The building containing the image of Nara Sinha is more like a private residence than a Hindu temple. It is built with gable-ends and covered in with a sloping roof of plates of copper. Pilgrims halting here put up in a large square, having a stone cistern, supplied by two brazen spouts, which yield a never-failing flow of water, derived from a stream descending from the Himálaya. A collection of temples, bearing marks of great antiquity, extend along one side of the square, being ranged along a terrace about ten feet high. In the centre of the area is a temple sacred to Vishnu, surrounded by a wall thirty feet square. Several of those temples are much dilapidated, having been partially overthrown by earth-

quakes. The temples of Vishnu, Ganesa, Surya or the Sun, and the Naudevi, have suffered least. The statue of Vishnu is of black stone, in a very superior style of workmanship. It is about seven feet high and is supported by four female figures, standing on a flat pedestal. There is another image of brass with wings attached and wearing the sacred Brahmanical thread, which some assert to be of Bactrian-Greek workmanship. The image of Ganesa is two feet high, well carved, and polished. In the town is a line of water-mills, placed one below the other, at intervals of fifteen or twenty yards, and turned by one stream, which, flowing from the mountain above, is supplied to them in succession by a communication through troughs of hollowed trunks of firs. Joshimath is an important station on the road to both Mána and Niti, and a cross road from Rámni by the Kulara pass ends here. The inhabitants are temple priests, traders, and cultivators. There is a traveller's rest-house, a school, and a pilgrim dispensary supported from the *sadábart* funds. The place is not so flourishing as it was, and bears evident traces of its desertion by the Bhotiyas, who now carry their wares to Nandprayág further south.

Juhár, a parganah of Kumaon, comprises three pattis—Juhár Malla, Goriphát and Tallades. The land tax was assessed as follows at each settlement :—

1815.	1817.	1819.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
4,842	5,140	5,051	2,633	3,382	3,380	3,439	3,373	5,975

The land-revenue falls on the whole assessable area at Re. 0-15-1 per acre and on the cultivation at Re. 1-12-2 per acre. The entire area liable to revenue at the recent settlement amounted to 6,332 *bisis*, of which 2,936 are culturable and 3,395 are cultivated (1,079 irrigated). There are 107 mahals or estates comprising 212 villages inhabited by 5,074 males and 4,488 females: in 1881 there were 4,803 males and 4,621 females. The patwári resides in Milam. (See BHOTIYA MAHÁLS.) The surface throughout has a great elevation, the lowest part being the valley of the Gori river. About the end of October the whole of Juhár proper is covered with snow, and the inhabitants all descend to the lower pattis. The accumulation is progressive to the beginning of April, and snow continues to fall until late in May. The depth in open and level situations varies in different

years from six to twelve feet, and is wholly dissipated by the first week in June; but in confined and much-depressed places, successive avalanches sometimes cause accumulations several hundred feet thick, and in many deep valleys and ravines the whole is not melted until late in July. Webb, in the beginning of June, found an accumulation 250 feet in perpendicular depth in the bottom of a valley, where the further progress of avalanches from the inclosing mountains was arrested. At an elevation of 11,568 feet above the level of the sea, the head-water of the river Gori flows from the base of this mass, which never quite melts, though towards the close of the periodical rains, the side, midway up the mountain, becomes divested of snow and yields a very scanty pasture to goats. The upper extremity of the valley, however, is never free from snow. The scanty cultivation attempted in the upper portion of Juhár produces barley, buckwheat, amaranths, leeks, and turnips. Species of buckwheat, celery, garlic and rhubarb grow wild. The crops are usually very poor and sometimes completely fail in consequence of the ungenial climate. The indigenous fruits are gooseberries, red and white currants, raspberries, pears, and strawberries. The culture of peaches and apricots is attempted, but the produce is very poor. The other trees are various kinds of pines, rhododendrons, and birches, the usual shrubs are ground-cypress, roses, and sweetbriar. Flowers are plentiful, especially iris and anemone.

Jumna, the second greatest river of these provinces and the most important feeder of the Ganges. It rises in native Garhwál in the group of mountains known as Bandarpunch or the Jamnotri peaks, at an elevation of 10,849 feet above the level of the sea. Bandarpunch as seen from the south-west shows a ridge called Kailáru striking off to the southward and westward from the peak lower E of the maps (20,014 feet) and ending in a small glen in front. To the west of this and nearly north-east of the point of observation another large mass runs down, called Duman-kandi, forming between itself and Kailáru a basin whence issues the Unta-ganga. Further to the west a range consisting of many high and irregular masses, taking its rise from a continuation of Bandarpunch, forms the western side of the valley; and between this range and Duman-kandi, the Jamna is formed from many sources in the snow. These streams unite in one and fall into a basin below. To

this basin, however, there is no access, for immediately above this spot the rocks again close over the stream, and, though not so lofty as those below, they interpose a complete bar to further progress in the bed of the torrent. Between the two banks, the view is closed by the breast of the mountain, which is of vivid green from perpetual moisture, and is furrowed by time and the torrents into numberless ravines; and down these ravines are seen trickling the numerous sources of this branch of the Jumna. Above this green bank, rugged bars and dark, rocky cliffs arise, and the deep calm beds and cliffs of snow, towering above all, finish the picture. Noble rocks of varied hues and forms, crowned with luxuriant dark foliage, and the stream journeying from rock to rock, forms a foreground not unworthy of it. The Unta-ganga and Jumna unite at the point of a level piece of land lying at the foot of Duman-kandi, which thus divides the valley into those through which the two rivers flow nearly equal in volume and length.

Source.

The principal source, according to Hodgson, lies about 500 feet to the north-west of the hot spring of Jamnotri, where the face of the mountain rises very steeply and is entirely cased in snow and ice. From a rock which projects from the snow a small rill descends during the day, about three feet wide and very shallow, being only a shower of spray produced by the snow melting under the influence of the sun's rays. Below this the snow-bed is intersected by rents and chasms, caused by the falling in of the snow as it becomes melted by the steam of the boiling spring below it. The rill finds its way through crevices formed in the snow-bed to the ground beneath, out of which gush numerous springs of water of nearly boiling heat, and the steam from these melts the mass of ice and snow above them, so as to form numerous excavations resembling vaulted roofs of marble, and further causes a copious shower, which affords the principal supply to the Jumna. The stream holds a source generally south-westerly for about eight miles, when the Birahiganga or Unta-ganga, which down to this point surpasses the Jumna in length and volume of water, joins it on the left bank.

The declivity of the bed of the stream in this portion of its course is enormous, as in a distance of sixteen miles from its source the fall is 5,036 feet, being at the rate of 314 feet to the mile. About five

miles below this it receives on the right bank the Badiyar, a great torrent descending from Kedár Kanta. The Supin rises to the north of the Bandarpunch group, and joined by the Rupin is called the Tons, and this again fed by the Pabar eventually joins the Jumna, which is thus the great drainage channel for Tíhri and Jaunsár-Báwar.[1]

The route from Jamnotri to Mussooree is shown below:—

No. of marches.	Name of halting-places.	Estimated distance in miles.	Height above sea-level.	Remarks.
			Feet.	
1	Jamnotri to Kharsáli...	5	8,600	Rough and dangerous march in places.
2	Rana	11	7,000	Cross and recross Jumna river several times by log bridges.
3	Ujri (Ujrigarh) ...	6	5,800	Supplies scarce.
4	Kutnar	6	5,300	On Jumna river supplies scarce.
5	Camp at foot of ascent,	11	5,100	No supplies.
6	Camp near Gihangar...	12	4,100	Ascent and descent.
7	Dharásu	8	3,300	Easy march, but hot.
8	Lalauri	8	4,000	Follow forest road as far as Birothi village; supplies dearer.
9	Bála	10	5,700	Cross Nágtiba range; supplies scarce.
10	Camp	14	5,700	Pass Phedi village; no supplies; water scarce.
11	Mussooree ...	10	...	Hotels.
	Total miles ...	101		

Kailás, a peak in the Kangri or glacier sub-division of Purang in Hundes, to the north of the Mánasarowar lake, is situate in north latitude 31°-4′ and east longitude 81°-22′, with an elevation of 21,830 feet above the level of the sea. It is called Tise by the Huniyas. As seen from the north-western point of Rákas Tal it appears to rise to the north out of the plain only two or three miles distant, dominating the peaks and ridges for some miles around by at least 2,000 feet. Captain H. Strachey thus describes it:—

The south-western front of Kailás is in a line with the adjacent range, but separated on either side by a deep ravine; the base of the mass thus isolated is two or three miles in length perhaps; the general height of it, estimated to be 4,250 feet above the plain, but from the west end the peak rises some 1,500 feet

[1] Fraser's Journals, 4197; As. Res. XIV, 149; Skinner's Excursions, 300; Jacquemont, IV, 76, 92.

higher, in a cone or dome rather, of paraboloidal shape; the general figure is not unlike that of Nanda Devi, as seen from Almora. The peak and the upper part of the eastern ridge are well covered with snow, which contrasts beautifully with the deep purple colour of the mass of mountains below. The stratification of the rock is strongly marked in successive ledges that catch the snow falling from above, forming irregular bands of alternate white and purple: one of these bands more marked than the rest encircles the base of the peak, and this, according to the Hindu tradition, is the mark of the cable with which the Rákshasa attempted to drag the throne of Siva from its place. Fragments of a dark purple stone strongly resembling in colour the rock of Kailás, which are found on the shores of the lake, were a sort of rough jasper.

The openings on both sides of Kailás disclose only more mountains in the rear; the western ravine appears to be two or three miles deep; the back of the eastern recess is occupied by a fine pyramidal mass rising in steps of rock and snow, with a curious slant caused by the dip of stratification (to the eastward). The average height of the Kangri mountains around must be about the same as the eastern ridge of Kailás, 4,250 feet above the plain, *i.e.*, 19,500 feet of absolute elevation above the sea, of which only the uppermost 1,000 feet or so is tolerably well snowed.

On a ledge on the base of Kailás, about the middle of the south side, is Kangri, by the Hindustánis called (Dindi) Darchin (14,500 feet). Moorcroft, in 1812, found here "four houses of unburnt brick or stones and about twenty-eight tents," to which may be added the Gumba of Gyanktang, which, in 1867, was a large village. Through the ravines on either side of the mountains is the passage by which the pilgrims make the *parikrama* or circumambulation. The circuit is performed in two days by those who take it easily, but with more exertion it may be done in one day. There are four Gumba on the road; (1) Nindiphu (or Dindi) in the western ravine, on the right bank of the Sárchu, and immediately opposite the peak of Kailás; this is the principal shrine and the head-quarters of the Lhoba Láma; (2) Didiphu, which is further up the ravine of the Sárchu: thence the pilgrim road crosses the Dolma-La, the ridge of the mountain behind the peak on which is a small pond which the Hindustánis called Gauri-Kund; the ridge is high enough to have snow upon it early in the summer. Thence the road descends to (3) Jungdulphu, in the eastern ravine, and (4) the Gyanktang, in Kangri.

From the south face of Kailás, close above Kangri, rises a considerable stream, which the Bhotiyas called Lá-chu, (*i.e.*, the mountain river) falling into Cho-Lagan three or four miles to the south-east of its northern extremity. Moorcroft describes this stream as crossed by a *sanga* just below Kangri and originating in a cascade close above; he calls it the Darchin-gadera, a mere Hindustáni generality. From the ravine east of Kailás comes another considerable stream also debouching into the lake a mile or two east of the Lá-chu: this the Bhotiyas name after Barka, which is on the left bank of it in the plain between the mountain and the lake.

This Barka is the third "Tarjum," i.e., 'mail-station,' on the Lhása road from Gár. There is no village, but a standing camp of a tent or two, for the couriers. These two streams, Lá-chu and Barka, are the only permanent affluents of Cho-Lagan from the Kangri mountains. The Lá-chu, which is a very large stream,

is 150 feet wide and deepest three feet, running through a sandy bed, here a furlong broad, and expanding with much sub-division of the stream towards the lake.[1]

Mr. Ryall writes :—" Kailás in appearance is very striking. It is not unlike in shape a roughly-made Hindu temple with a few feet of its conical top broken off. For some miles around all the peaks fall short of Kailás by nearly 2,000 feet, and this superiority in height within an extensive radius enhances the beauty of the peak." Kailás in Chhakháta (5,866 feet) below Malwa Tál, also called Mahádeo-ka-ling, is said to resemble the Kailás in Tibet. There is a fair held here in Phálgun just before the Holi Mr. Griffiths thus describes Kailás in his translation of the Rámáyana.[2]

" To far Himálaya's summits flee.
Kailása there wilt thou behold,
And Rishabh with his peaks of gold.
Between them see a mountain rise,
Whose splendour will enchant thine eyes ;
His sides are clothed above below,
With all the rarest herbs that grow.
Upon that mountain's lofty crest,
Four plants, of sovereign power possessed,
Spring from the soil, and flashing there,
Shed radiance through the neighbouring air.
One draws the shaft : one brings again
The breath of life to warm the slain ;
One heals each wound ; one gives anew,
To faded cheeks their wonted hue.
Fly, chieftain, to that mountain's brow
And bring those herbs to save us now."

Kainúr, or Kanyúr, a traveller's bungalow and halting-place on the middle route from Páori to Almora in patti Choprakot of parganah Chandpur in Kumaon, is situate on the right bank of the eastern Nyár river, in latitude 30°-1′-5″ and longitude 79°-6′-10″, distant 9 miles 1 furlong 10 poles from Gwalkura ; 14 miles 5 furlongs 28 poles from Chhiphalghát bungalow, on the same road and 10 miles 13 poles from Bungidhar traveller's bungalow ; The road hence to Gwálkúra has been described under GWÁLKÚRA and that to Búngidhár under BÚNGIDHÁR. The road hence to Baijirau passes by Ghatura across the Lokhar Ganga, Hit and Chauri rivulets, 1 mile 5 furlongs 29 poles. Thence across the

[1] H. Strachey, Journey to Cho-Lagan. J., A. S. Ben. XVII (2) 29 : See *Mánasarowar*, also Montgomery's Pandit's Account, Rec. G. T. LXXI, 195, which gives further information. [2] V. 224.

Pandera, Ghut and Semal rivulets to Sauli and Kaula, all of which are bridged; from the Kaula, an ascent of 1,000 yards leads to the Chauri-khál, 3 miles 1 furlong 20 poles from the bridge across the Chauri rivulet. A descent of about the same length leads to the Nánsyún bridge and by Toli and Jiwai (2 miles 5 furlongs 18 poles) to the Gyunlekh-Chauri and Sukni village (1 mile, 6 furlongs 30 poles), whence it is level to Baijirau and the Kunjoli traveller's bungalow. Kainúr was at one time the head-quarters of a tahsíl since absorbed in Srínagar.

Kairarau, a sub-division of parganah Bárahmandal in Kumaon, contains the upper waters of the Gagás river near Dunagiri. At the recent settlement it had an assessable area of 1,519 *bisís*, of which 325 were culturable and 1,194 were cultivated (500 irrigated). The land-revenue in 1,815 amounted to Rs. 692; in 1820 to Rs. 1,056; in 1843 to Rs. 1,269; and is now Rs. 2,618, which falls at Rs. 1-11-7 per acre on the total assessable area at settlement and at Rs. 2-3-1 per acre on the cultivation. The population then numbered 2,859 souls, of whom 1,505 were females. The patti is named after the Kaira caste planted here by Kirati Chand in the sixteenth century. The patwári resides in Parkot, where there is a school.

Kakalasaun Malla, a patti of parganah Páli Pachháon in Kumaun, is bounded on the west, by Kakalasaun Talla and Talla Sult; on the south, by Kosiyan Talla and Chauthán; on the east, by Malli Doti and Silaur Malla and Talla; and on the north by Silaur Talla. This was separated from Kakalasaun at the recent settlement. It occupies the valley of the Naurar stream, which joins the Gagás just before the confluence of the latter stream with the Rámganga near Bhikiya-sain. The principal villages are Mujhirha, Gangorha, Mohnuri, Páli, Sím, and Thauli. The statistics of the Malla and Talla pattis may be shown thus:—

Kakalasaun.	Assessable area in bisis.				Assessment in rupees.				Population.	
	Total.	Cultivated.		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigation.	Dry.							
Malla ...	3,258	77	2,654	527	1,059	1,770	2,044	3,320	2,758	2,638
Talla ...	989	30	763	196	473	656	682	909	726	679

The incidence of the land-tax in the Malla patti falls at Re. 1-0-4 per acre on the total assessable area and at Re. 0-14-8 per acre in the Talla patti: on the cultivation it falls at Re. 1-3-5 and Re. 1-2-4 per acre respectively. The patwári resides in Panthgaon: there is a school in Sinaura.

Kakalasaun Talla, a small patti of parganah Páli Pachháon in Kumaon, separated from Kakalasaun, at the recent settlement. It is bounded on the north and west by the Rámganga river, which separates it from Talla Nayán and Walla Sult; on the south by Talla Sult and Kakalasaun Talla; and on the east by the latter patti. It lies along the left bank of the Rámganga from its junction with the Gagás at Bhikiya-sain to the Bamora rivulet, and is traversed by the road from Rámnagar to Másí. The principal villages are Basot, Saurai, and Suni. The statistics will be found under KAKALASAUN MALLA. One village (Thapula) was received from Nayán at the recent settlement, seven were transferred to Sult Talla and two to Silaur Talla. The patwári resides in Bhikiya-sain, where there is a school.

Káladhúngi, a hamlet at the foot of the hills in the Chhakháta Bhábar of the Kumaon district, is situate on the high road from Moradabad to Naini Tal, 47 miles from the former and 16 miles from the latter, in north latitude 29°-17′-5″ and east longitude 79-°23-′27″, at an elevation of 1,300 feet above the sea. From 1850 to 1875 it derived some importance as an easy route to Naini Tál; but with the opening of the railway to Bareilly it has gradually sunk again to its original position as a petty Bhábar mart, and the opening of the railway to Ránibág must still further render it of only purely local importance. There is a traveller's bungalow, dispensary, and police-station. The place is hot and malarious in the rains. The population in 1872 numbered 111 souls.

The road from Moradabad is bridged and metalled throughout and traversed by carriages and mail-carts. From Moradabad to Sehal on the Káshipur road, 5 miles; Badh-tánda in Rámpur territory, 15 miles; Dariyál bungalow, 7 miles; Rámpur road joins, 4½ miles and Tarái begins; Mundiya with police-station and dispensary, 6½ miles; Wilsonganj, commencement of forest, 5½ miles; Garpu, boundary of Kumaon Bhábar, 2 miles; and Káladhungi bungalow, 6½ miles. From the bungalow to Naini Tál, the first

eight miles to Mungauli traveller's bungalow is a continued steep ascent, the peak above the bungalow attaining a height of 5,110 feet. For some distance as far as Sariya Tal the road is tolerably level, passing by Khúrpa Tál (5,364 feet), where are the remains of one of the stations of the Kumaon Iron Works Company now closed. From Sariya Tál a steep ascent of two miles leads between the Háni-Báni cliffs and Deopátha by the Abelia pass into the Naini Tál valley.

Káladhúngi is connected with Haldwáni (15 miles) by a good cart track along the base of the hills. To Cháonchala, 5 miles, the soil is little else than gravel, supporting a thin and stunted forest traversed by a dozen dry channels of the Nihál, the most western of which passes a few hundred yards east of Káladhungi. Cháonchala is a clearing close to the base of the hills, watered by the Bhakra, which takes its rise in the south-eastern slopes of the Páprí ridge: further east comes another torrent, on the left bank of which is Fatehpur. Then Haripur, Mandapur, and Luriya Tál, in the neighbourhood of which some three miles from Haldwáni (*q.v.*) there are large sheets of cultivation irrigated by channels from the Gaula.

Kálapáni, in patti Byáns of parganah Dárma in Kumaon, is a remarkable collection of springs regarded as sacred by the natives and erroneously considered by them as the source of the Káli river, though the headwaters of the latter lie thirty miles further north-west. They are in fact unimportant tributaries and derive their name from the dark colour of their waters. They take their rise, on the north-eastern declivity of the peak known as Byáns-Rikhi, 45 miles, north-east of Askot in latitude 30°-14′ and longitude 80°-56′ at an elevation of 14,220 feet above the level of the sea. Their waters are discharged into a stream flowing a few hundred feet to the west and which bears the name of Kálapáni river. This river is formed by the union of two streams, one rising close to the western entrance of the Lípu-lekh pass and holding a westerly course of about four miles joins the other rising on the western declivity of the great Kuntás peak and flowing five miles southerly to the confluence (11,760 feet) and about a mile above the springs. The united stream flows five miles south-westward to its confluence with the Kuthi river hence forth called the Káli, in latitude 30°-11′-0″

and longitude 80-°54′-0″, at an elevation above the sea of 14,413 feet and only about 150 feet below the limit of perpetual snow. The spring is visited by travellers passing to Mánasarowar. The drainage area of the Kálapáni lies wholly within British territory, but a short way below the springs, the Káli forms the boundary with Nepál.

Kálapáni, a stream rising in patti Bárabisi of parganah Síra in Kumaon, drains that patti, the southern slopes of Loni (7,763 feet) and the northern face of Masurbio (5,916) and Kamroli (4,703) and first collects into a stream about Rin on the Shor and Thal road, and thence flowing south-west joins the eastern Rámganga on the left bank in latitude 29°-39′-50″ and longitude 80°-11′-0″ at the southern boundary of the same patti.

Káli, the largest river of Kumaon, is known on leaving the hills as the Sárda and lower down as the Sarju or Ghágra to its confluence with the Ganges at the southern extremity of the Ballia district in the North-Western Provinces. It has two head-waters: the Kálapáni (*q. v.*) to the east, which takes its rise in the southern slopes of the ridge crossed by the Lípu-lekh pass into Húndes; and the western branch, which has the longest course and the largest volume, is known as the Kuthi-Yánkti (*q. v.*). The latter has its rise in the glaciers lying along the upper portions of the patti of Byáns from the foot of the passes of Maukshang or Mangsha and Lunpiya leading into Húndes. From a little below Kálapáni encamping-ground southwards, the Káli forms the boundary with Nepál.[1] From the confluence with the Kálapáni the united stream has a southerly course for a few miles to Garbiya and then bends to the south-west, in which direction it continues to flow twenty-three miles further to the confluence with the Dhauli (*q. v.*) on its right bank near Titalakot in Dárma. The Káli, which at its confluence appears to be twice the size of the Dhauli, is previously a vast torrent, and in many places a huge cataract tumbling over vast rocks, which in some spots form natural bridges, being wedged together by their pressure against each other, and against the sides of the precipices inclosing the deep gorges down which the stream rushes. In many places the stream for considerable distances is totally hidden under glaciers. Below the confluence the stream is thirty yards wide;

[1] Art. V of Treaty of Sigauli.

but, swelled by numerous mountain-streams received right and left, it soon attains a width of eighty yards. It continues to flow in a south-westerly direction, and twenty-two miles lower down, or seventy-five from its source, it on the right side receives the Gori or Goriganga, a river equal in size to itself. This confluence is in latitude 29°-45′-8″; longitude 80°-25′-0″, and is 2,127 feet above the sea. Below this place twelve miles, and eighty-seven from its source, the Káli receives on its left bank from Nepál, the Chamliya, and three miles lower down, at the Jhúla-ghát, the elevation of the water's edge is 1,789 feet. Sixteen miles below this, at Pacheswar, the Káli receives the Sarju, the greatest of its feeders. Thenceforward the united stream is no longer called the Káli, but variously the Sárda or the Sarju. At Pacheswar it turns a little to the south-east, and ten miles lower down, on the right bank, receives the Lohaghát river, two miles below the confluence of which a large tributary from Nepál flows in on the left. Turning southwards at that point, it, at a distance of eighteen miles beyond, receives on the right the Ladhiya in patti Pál-belon, a considerable stream. By all these accessions it becomes a great river, and at Barmdeo, twelve miles lower down, in latitude 29°-6′-30″, longitude 80°-13′-37″, and 148 miles from its source, it enters the plain of Hindustán, about 800 feet above the sea. Webb found it "about 150 yards broad on an average, bed stony, very deep, and moderately rapid." Herbert estimates the discharge of water here during the dry season at 4,800 cubic feet per second; that of the Ganges at Hardwár at 7,000.

The Káli[1] is not used for navigation and but little for irrigation in the hills. (See CHAUDÁNS, BYÁNS.) A tremendous land-slip took place a short distance above the debouche about 1846, and completely damned up the river, the bed of which is said to have been quite dry for several hours; accounts vary from three to twelve. Great damage was apprehended from its bursting through the obstruction; but fortunately it overcame it gradually, and no harm was done. There are ghâts at Banbasa for the Tarái with canoes: at Barmdeo with Mundiya opposite; at Káladhúngi crossed

[1] This river is the Ghâghra of Shakespear; Gogra or Ghogra of Wilson and Thornton; Gharghara and Ghaghra of Wilford; Ghaghra of Buchanan and Gogra of Rennell. Martin's East India, II, 300; Prinsep's, Steam Nav. in India, 48; As. Res. XVI, 140; T. A. S. Ben. 1842, p. XXXIII. SEE AZAMGARH and GHÁZIPUR districts.

by gourds (a thieves' ferry): Balsiya from Malásgarhi to Purnagiri: Kusm for elephants and horses to Khilpatti; Kákri only crossed by gourds; Dharm at the confluence of the Sarju, and Jhúla, where there is a bridge. The island of Chandni-Chauk[1] in the Sárda had long been a subject of quarrel between the Tarái and Oudh, but according to a decision of a commission appointed in 1830 it was handed over to Oudh.

Káli Kumaon, a parganah of Kumaon, containing fourteen pattis, each of which is separately noticed, *viz.*, Chálsi, Chárál Malla and Talla, Gúmdes, Gangol, Khilpattiphát, Pálbelon Malla and Talla, Pharka, Regarúbán, Sipti, Súi-bisang, Talládes and Assi. The assessments since the conquest are:—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
8,960	9,764	10,967	12,248	14,152	13,363	15,555	15,621	25,873

The rate on the whole assessable area now amounts to Rs. 0-11-2 per acre and on the cultivation to Rs. 1-1-5 per acre. The assessable area comprises 37,078 *bísis*, of which 13,263 are culturable and 23,815 are cultivated (1,558 irrigated). The population at the time of settlement numbered 22,666 males and 19,164 females; in 1872, 25,222 males and 22,310 females; and in 1881, 14,589 males and 13,793 females. There were 1,324 *bísis* devoted to temple endowments and 161 were held free of revenue. There are 580 mahál or estates comprising 711 villages. Champáwat, the site of the old Chand capital, is in the centre of the parganah and now forms the head-quarters of the revenue administration of this parganah and Shor, Síra, and Askot. The borders of the parganah on all four sides are covered with scrub and forest, but the central portion is fairly well inhabited. The soil, however, in a great proportion, is of the second or third quality, and there is a deficiency of the best kind.

The climate is cold, and hence the productiveness is not great. Much surplus grain for sale does not exist, as nearly all is required for home consumption. A great portion of the inhabitants repair, during the cold months, to the Bhábar. The chief trade there is the sale of turmeric, which is plentifully grown in the warmer parts of the parganah. In the middle, waste culturable land is scarce, and it would therefore appear that the revenue has there reached its proper

[1] From Government, dated 23rd February, 1830; from Government, dated 22nd June, 1830; from Government, dated 9th April, 1832.

limit. Where the waste lands are abundant (as near the Káli and the Bhábar), there the climate is unfavourable to the spread of population. Towards Chaugarkha, however (on the north-west), the cultivation has increased and is increasing. The name Kumaon is a corruption of Kurmáchal, the old name of Kánádeo, a peak (7,248 feet) in patti Chárál east of Chhirapáni. Here Vishnu resided for three years in his tortoise *avatár*, and whilst there was worshipped by Indra, Nárada and the Rishis. Káli Kumaon is Kumaon along the Káli river.

Káligár, a subdivision of parganah Bárahmandal, lies to the north of the road from Bhainskhet to Dwára. In 1865, it contained an assessable area of 1,312 *bísis*, of which 329 were culturable and 982 were cultivated (65 irrigated). The land-revenue in 1815 amounted to Rs. 339; in 1820 to Rs. 601; in 1843 to Rs. 714 and at the present settlement was fixed at Rs. 1,278, which falls on the total assessable area at Rs. 0-15-7 per acre and on the cultivation at Rs. 1-14-10 per acre. The population then numbered 2,163 souls of whom 993 were females. The patwári resides in Dadgalya: there is a school in Kuwáli.

Kálimat, or **Kálmattiya**, an eminence four miles north of Almora in Kumaon, in latitude 29°-38′-32″ and longitude 79°-42′-13″, which attains an elevation of 6,414 feet. The name is derived from the colour of the clay, which consists of an impure plumbago.[1] The hill slopes down to the Kosi on its left bank and to the north-east is connected by a ridge with Binsar. The Gorkhális had a stockade here during their possession of Kumaon. Under the Rájas it contained the depôt for iron and tools, and the story runs that Srí Ballabh Upádhiya lived here, and, not being able to procure wood, took some iron from the Rája's stores, with which he lighted his fire and cooked his food. The ashes remain and make the hill black. It is the Kásháya of the Mánasa-khanda of the Skanda Purána: hence the name Kashár still applied to it. Sri Ballabh was called, in consequence of the above exploit, Loh-humi, the iron-burner: hence the caste name Lohání borne by his descendants. He received in *muáfi* the villages of Lohána, Satráli and Khulna. Here he again displayed his supernatural powers: for his wife being tired with carrying water for the service of the family god

[1] Gaz. X. 292.

bore the vessel on her head which rendered it impure. Srí Ballabh then asked the idol to create a spring which at once burst forth, but the wife calling out in astonishment, destroyed nine-tenths of its volume and only one-tenth of the intended supply now remains in the Upádhiya *dhára*. Madden writes:—"In common with the vicinity of Almora itself Kálimat is too well grazed by cattle to afford much room for vegetation. In the spring a shrubby Dipsacus with lilac blossoms is common and in the autumn the warmer declivities abound with the beautiful *Osbeckia stellata* (*kukarmakri*, H). The *Scilla indica*, *Aquillaria indica*, *Curculigo orchioides* and *Fritillaria Thomsoniana*, all reach up to this point and are abundant." The summit is composed of mica slate and gneiss in horizontal strata and gives a very fine and extensive view. To the east are the dark ranges of Binsar and Jageswar to the south and south-west the lofty Gágar excludes the plains and from north-east to north-west extends the snowy range, of which a view is given in Royle's Illustrations.

Kálipháț Malli, a patti of parganah Nágpur in Garhwál, is bounded on the north by Tihri; on the east by Nágpur; on the south by Parkandi and Bámsu and on the west by Maikhanda and Tihri or native Garhwál. It is occupied by the valleys of the Mandákini, Káli Ganga and Madhmaheswar rivers, of which the Mandákini is the principal. It lies on the extreme west and its valley forms the road to the temple of Kedárnáth. The Basukhi and Sain from the north-west join the main stream at Sundwárá. Thence the course is south-east through a number of villages to Guthna, where it receives the Káli Ganga and Nála where the Madhmaheswar joins it. The Káli drains the centre of the tract, which consists of lofty hills uninhabited except during the grazing season. The Damár or Banár having its source near the Mandani temple flows into the Káli. The space between the Banár and Madhmaheswar is traversed by the pilgrim roads to the temples of Mandani and Madhmaheswar, but contains no villages of any importance. The patwári of Malli Kálipháț, resident at Guptkáshi, collects the land-revenue of Pattis Bámsu, Parkandi and Maikhanda also. All four were assessed in 1864 at Rs. 1,700 for land-revenue and *sadábart* and Rs. 834 for *gúnth* on a total population of 5,916 souls.

Kálipháṭ Talli, a patti of parganah Nágpur in British Garhwál, is bounded on the north by pattis Bámsu and Parkandi; on the west by Tíhri; on the south by Talla Nágpur and on the east by Nágpur Bichhla. The Rudrprayág and Kedárnáth road passes northwards through the western portion of this patti along the left bank of the Mandákini river by Agastmuni, Nákot, Chameli, Hát, Bhatwári and Biri. At the last place it is joined by the Almora road by Karnprayág and Nandprayág. The cis-Mandákini portion comprises the valley of the Kiúnjgár, a tributary of the Mandákini lying between the Khatarsámi (8,478 feet) and Rágshi (10,091) peaks, closely cultivated. The trans-Mandákini portion contains the British portion of the valley of the Dármá-gár, a considerable feeder of the Mandákini, which it joins on the right bank near Basti. The patwári resides at Chandrapuri in the patti, which was assessed at Rs. 2,480 for land-revenue and *sadábart* and Rs. 207 for *gúnth* on a population of 5,847 souls in 1864. Kálipháṭ Talli is rich in minerals. Iron mines are worked at Dogari, a Jaikhandi and Tundula; copper mines at Kayara, Kyúngadh, Dobar and Pingalapáni.

Kálsi or Khálsi,[1] the chief village in parganah Jaunsár-Báwar of the Dehra Dún district, is situate in north latitude 30°-32′-20″ and east longitude 77°-53′-25″, at an elevation of 1,820 feet above the level of the sea, with an area of 39 acres. The population in 1881 numbered 854 souls (307 females), of whom 708 were Hindus and 146 were Musalmáns. Kálsi is situate on the Amláwa stream, a tributary of the Jumna about three miles from the great iron-girder bridge across the Jumna on the military road from Saháranpur to Chakráta, 52 miles from the former and 25 miles from the latter. Between the river and the town, the road winds up a gentle ascent and approaches the village through a fine grove of mango and *haldu* trees. There is a Public Works bungalow, a traveller's rest-house, and also a tahsíli, post-office, school and police-station.

The scenery around Kálsi is very picturesque; the whole district can show no more lovely view than the panorama opened upon dipping from the Saháranpur road at Ambári into the declivity by which the Jumna is reached. The new bridge over that river, a little to the south of an old suspension bridge, the piers of which

[1] I am indebted for most of this notice to Mr. F. Fisher, B.C.S.

alone remain, is a magnificent example of engineering skill. From the Jumna up to Kálsi the land on the western bank of the river is formed in two successive ledges or steps, each about one hundred feet high. Near the foot of the upper ledge is the celebrated Kálsi stone containing one of Asoka's edicts and lying close to the little villages of Byás and Haripur. It is reached by a hill-path leading from the main road. The path to the village lies off the main road to the right and passes through a gorge to the tahsíli, which is a mean building, in bad repair and unfitted for the offices it is intended to contain. It is under consideration to remove the tahsíldár to Chakráta, and this is understood to be the reason why so little attention is paid to Kálsi.

Asoka's stone.

The Kálsi stone is a huge quartz boulder some ten feet high, ten feet long and eight feet broad at the base, the breadth diminishing towards the top. The south-eastern face has been partly smoothed and bears the greater part of the inscription, but a portion of the record has been inscribed on the left hand side of the rock, the prepared surface having been evidently found insufficient for the whole. On the right-hand side an elephant is traced in outline with the word '*gajatame*' between the legs. The natives call it '*chitra-sila*,' 'the inscribed or pictured stone,' not '*chatra-sila*' or 'canopied stone.' When first discovered by Mr. Forrest early in 1860, the letters of the inscription were hardly visible, the whole surface being incrusted with the moss of ages; but on removing the black film, the surface became nearly as white as marble. On comparison with the other edicts[1] that at Kálsi was found to be in a more perfect state than any other, and more especially so in that part of the 13th edict which contains the names of the five Greek kings :— Antiochus, Ptolemy, Antigonus, Magas and Alexander, who from western records we identify with Antiochus Theos of Syria, who flourished B.C. 263-46 : Ptolemy Philadelphus of Egypt, B.C. 285-46 : Antigonus Gonnatus of Macedonia, B.C. 276-43 : Magas of Cyrene, B.C. 258, and Alexander of Epirus, B.C. 272-54 ; so that the writing was inscribed in the third century before Christ, or say 253 B.C. The other similar rock edicts are found

[1] See General A. Cunningham in Arch. Rep. I. 244 ; Corpus inscriptionum Indicarum p. 12, 117 (Calcutta, 1877.)

at Shábáz-garhi in the Yusufzái district, twenty-five miles north-west of Attak on the Indus, at Girnár in Gujrát, at Dhauli in Kattak and at Jaugada in the Ganjám district. All these contain the whole fourteen edicts, but portions are found in caves and on pillars and rocks elsewhere.

Rája Rásálu.

The local legends connect Haripur with the Rája Rásálu of the Panjáb and General Cunningham considers the fact of the existence of the legend here as proving that the Indo-Skythic Gújars of the Jumna had emigrated from the Sind-Ságar Duáb, bringing with them the legends of their forefathers. The Buddhist and Skythic connection with the tract of Jaunsár is further borne out by the tradition ascribing to the Nágsidh hill the scene of the penance of a Nága king. When Hwen Thsang, the Chinese traveller, visited this part of India in 735-6 A.D., he does not mention any city nearer than Srughna, which lay on the right bank of the Jumna below the Siwáliks. This is merely negative evidence to show that no city of importance existed there during the middle ages; but Haripur may have formerly contained a large city, situated as it was at the confluence of two large rivers and a border town of the Indo-Skythian tribes inhabiting the hills. Another interesting monument of former times is the temple and remains at Lakhamandal, some 20 miles higher up the Jumna, in the Baundar *khat* described in the alphabetical arrangement of this volume. There are many old and quaintly-carved figures lying about there, and some of the temples have pretensions to considerable antiquity.

Lakhamandal.

House-tax.

The watch and ward of Kálsi is provided for by a house-tax levied under Act XX of 1856, which in 1880-81 yielded Rs. 1,065, expended on police (Rs. 240), conservancy (Rs. 204) and public works. The timber trade of Jaunsár-Báwar passes by Kálsi and is conducted under European supervision. The depôt of the principal firm is at Dhákpatri below Kálsi, where the logs are taken from the river which has carried them from the interior. The other products of the parganah find a ready market at Kálsi, such as turmeric, ginger, wax, honey, walnuts, soapnuts, antimony, red-pepper, sheep, goats, and blankets.

Formerly it was a great emporium for European manufactured goods, but these now find their way to Chakráta. In 1830-32, when transit duties were levied, they were farmed for Rs. 1,800 a year, chiefly on exports; but now there is little trade beyond that in minor forest produce. An encamping-ground of 150 acres in extent has been taken up so as to admit of the regiment from Chakráta being located here during the cold weather, should the authorities desire. There would be ample room for a brigade parade-ground and exercise of all kinds.

Kálu Shahíd, or *Kálu-Sayyid*, a resting-place and encamping-ground, on the route from Bijnor to Páori, so called from the tomb of a Musalmán mendicant, is situate in patti Bhábar (Pátli Dún) of parganah Talla Salán in Garhwál. It is to be distinguished from the Kálu-Sayyid on the Lál-Dháng Sot at the western boundary of the Kumaun Bhábar. It lies in north latitude 29°-33′-48″ and east longitude 78°-42′-10″, distant 12 miles 2 furlongs 8 poles to the cart road at the Jumna ghát near the Bogsár bungalow in the Pátli Dún. From Kálu-Shahíd the road is level for 1,000 yards and ascends 1,400 yards, then descends to Junikot to the cart-road, 2 miles 5 furlongs 8 poles from Kálu-Shahíd. Thence along the Tuniwala-gadh to Motásál, constantly crossing and re-crossing the stream, 2 miles 4 furlongs 25 poles. It then follows the-cart road down the Sona river, continually crossing that river and the Rámganga once to the grassy plain near Bogsár, 7 miles 15 poles. Supplies are dependent on whether the Forest Department are at work in the Dún or not, otherwise there are no villages and no inhabitants there.

Kamsyár, a patti of parganah Gangoli, in Kumaon, is bounded on the west by the Sarju river; on the east, by patti Baraun; on the north, by pattis Dúg and Pungaraun; and on the south by the Badher or Badrapatigár separating it from patti Athgaon. The road from Askot to Bágeswar proceeds directly from east to west through this patti and parallel with the road up the Pungar valley in Dúg. Both these roads join the Milam and Almora road in the Sarju valley. The Badrapati flows to the west and joins the Sarju on the left bank. The patwári lives in Pokhri, and there is a school in Titauli. The peaks between which the Askot road runs rise to the heights of 6,547 and 6,305 feet respectively. Portions of

this patti to the north were transferred to the new patti of Dúg at the recent settlement. The present assessable area comprises 4,022 *bisis*, of which 1,951 are culturable and 2,071 are cultivated (823 irrigated). The land-tax yielded Rs. 259 in 1815, Rs. 415 in 1820, Rs. 573 in 1843, and is now Rs. 2, 800, which falls on the total assessable area at Rs. 0-11-2 per acre and on the cultivated area at Rs. 1-5-8. The 7 revenue-free grants amount to 247 *bisis*. The population at the last settlement numbered 3,158 souls, of whom 1,671 were males, one village was received from Pungaraon, one from Baraun, one from Dánpur, five from Athgaon, and one from Katyúr at the new settlement.

Kandarsyún, a patti of parganah Dewalgarh in British Garhwál is bounded on the north by Bachhansyún; on the south, by Choprakot and Dhaijyúli; on the west, by Bidolsyún; and on the east, by Taili Chandpur. This patti was formed from Dewalgarh in 1844. The patwári of Kandársyún, usually resident in Khandgaon, collects the revenues of Bidolsyún and Ghurdursyún as well, aggregating in 1864, Rs. 2,738 for land-revenue and *sadabart* and Rs. 105 for *gunth*, with a population of 6,954 souls. There is a school at Khandgaon in this patti. The Chhipalghát traveller's rest-house on the road to Srínagar lies on the left bank of the western Nyár. The patti contains the upper valley of the western Nyar and its northern branch. In 1864 Dobri was received from Dhanpur, six villages from Chandpur and six villages from Choprakot. There are copper mines at Dobri, Morgadh, and Rájkhán.

Kandarkhuwa, a patti of parganah Phaldakot in Kumaon, is bounded on the north by Dwársaun and Chaugáon; on the east, by the latter patti; on the west, by Talla Tikhún, and on the south by the Kosi river separating it from Kotauli Talli. It is drained by the Ulabugr stream, a tributary of the Kosi which joins it on the right bank at Kákarighát. The patwári resides at Khand, where there is a school. The principal villages are Garhi, Garsári, Kalnu, Kotuli, and Suri. The assessable area comprises 2,818 *bisis*, of which 2,177 are cultivated (29 irrigated) and 640 are culturable. The land-tax yielded Rs. 1,766 in 1815, Rs. 2,161 in 1820, and Rs. 2,287 in 1843. It now amounts to Rs. 2,710, which falls on the total assessable area at Rs. 0-15-5 per acre, and on the cultivation at Rs. 1-3-11 per acre. The population at settlement numbered

4,733 souls, of whom 2,393 were males. One village was received from Dhúraphát and three from Chaugaon at the recent settlement.

Kandwálsyún, a patti in parganah Bárahsyún of British Garhwál, is bounded on the north, by Bangarhsyún; on the east, by patti Sitonsyún; on the south, by Banelsyún, and on the west by the Ganges. In 1864, three villages were transferred to Banelsyún, the patwári of which resides in Maklori and collects the land-revenue of Kandwálsyún also. This patti comprises a small strip of land along the left bank of the Alaknanda above and below its junction with the Bhágirathi at Deoprayág.

Kánsrau, an encamping-ground in the eastern Dún, at the foot of the Motichor hill, on the right bank of the Súswa river, on the road between Dehra and Hardwár. There is a police-station here and a house for the accommodation of native travellers. The place takes its name from the Kánsrau pass, once much used by people passing to and fro between Dehra and Saháranpur, but little frequented now since the road was opened under the Siwálik hills from Hardwár by Mr. Shore.

Kapholsyún, a patti of parganah Bárahsyún in British Garhwál, is bounded on the north, by Paidúlsyún; on the south, by Jaintolsyún; on the east, by Khátsyún and Mawálsyún and on the west by Aswálsyún. In 1864, Simtoli was transferred to Khátsyún. The patwári of this patti resides in Sakhyána and collects the land-revenue of patti Khátsyún also; both aggregated in 1864, Rs. 1,578 from land-revenue and *sadábart* and Rs. 110 from *gúnth* paid by 3,844 souls. There is a school at Thápli. This patti lies along the left bank of the Khar stream, a tributary of the western Nyár, and is traversed by the road by Jwálpa to Páori.

Kapíri, a patti of parganah Badhán in British Garhwál, is bounded on the north by Dasoli Talli; on the south by Síli Chandpur; on the west by Taili Chandpur and on the east by Karakot and Nandák. In 1864, Barsáli was received from patti Pindarpár and Sonula from patti Pindarwár. This patti lies along the right bank of the Pindar river, between it and the Alaknanda. The patwári of Taili Chandpur resides at Simli, on the left bank of the Pindar, on the road from Lobha by Adbadri to Karnprayág and collects the revenue of Kapíri. There are iron and copper mines at Tulásu now worked.

Kapkot, a halting-place[1] on the route to the Pindari glacier, 14 miles beyond Bágeswar, 41 miles from Almora and 9 miles from Lwárkhet, in patti Talla Dânpur of parganah Dánpur in Kumaon, in latitude 29°-57′-6″ and longitude 79°-56′-23.″ Supplies may be obtained here from a grain-shop; it is also on the route to Milam, which branches off here by Khárbugr, four miles from Kapkot. The road to Khárbugr crosses the Sarju by a suspension bridge and again a stream coming down from Lamchóli by a bad ford; and a second smaller stream beyond that. The road from Bágeswar runs along the right bank of the Sarju river, crossing the Lahor and Kanál rivers by bridges. It is generally undulating and easy and from its low elevation often uncomfortably hot. There are no important villages along the road. On the left bank opposite Kapkot is the large village of Atan. The vegetation between Kapkot and Lwárkhet exhibits most of the forms found between the former place and Bágeswar. In addition are the *Anemone vitifolia*, *Berberis lycium* (*kilmora*), *Erythrina arborescens* (*rúngara*) or coral-bush, *Parochetus communis*, *Quercus incana* (*bánj*), *Æchmanthera gossypium* (*jaundera*) and *Vitis macrophylla* (*amli*, *asonji*). There is a traveller's bungalow here, but no attendants or utensils.

From Kapkot upwards, the rock is the usual stratified limestone forming many abrupt brows and lofty walls, and sometimes contracting the Sarju to a few yards in breadth. The river is now reduced to a mere torrent and from Surhing appears, at a profound depth, a narrow streak of foam. Its source is on the south face of a huge spur from the eastern precipitous shoulder of Nandakot; this spur forks to south-west and south-east; the south-west range separating the valley of the Sarju from that of the Pindar. At this fork there is not a vestige of snow in September and October. Four streams large enough to require bridges occur, besides an infinity of rivulets, often converting the road into a swamp. About three miles above Kapkot there is a good suspension bridge across the Sarju, leading to Munsyári. The river line receives a large affluent on each bank. At one and a half miles from Surhing the path quits it, and mounting 800 or 1,000 feet the camp occupies an open spot about Surhing and below a village called Lwárkhet or Lohargaon at about 6,700 feet above the sea. The scenery across the Sarju is fine. The Lahor-ka-Dhúra, so named from a village visible to the north-east rather higher than Surhing, is bold, lofty, green, and wooded to the summit; it extends from north to south, and beyond it is the valley of the eastern Rámganga (*Madden.*)

Karakot, a patti of parganah Badhán in British Garhwál, is bounded on the north, by Talli Dasoli and Nandák; on the west, by

[1] See *Bágeswar.*

Kapíri; on the south, by the Pindar river, which separates it from Sirgur of parganah Chandpur, and on the east by Pindarpár. In 1864, seven villages were received from patti Pindarpár and the villages of Mokh and Kúnde were transferred to patti Nandák. The patwári of patti Síli Chandpur, resident in Kewar, collects the land-revenue of this patti also, which lies along the right bank of the Pindar river. At Naráyanbugr the road from Lohba to Nandprayág and from Karnprayág to Baijnáth cross each other at the bridge over the Pindar. There are old iron mines at Gúryál.

Karaundu Palla, a patti of parganah Ganga Salán, is bounded on the west, by the Walla patti of the same name and Dhángu Malla; on the south and east, by Langúr and the Nyár river and on the north by other pattis of the same parganah. There were seven villages transferred from this patti to other pattis in 1864. The land-revenue is collected by the patwári of Dhángu Malla resident in Dikhet. Mahrgaon in Karaundu Palla lies in latitude 29′-57″ and longitude 78°-40′-20.″

Karaundu Walla, a patti of parganah Ganga Salán in British Garhwál, is bounded on the north by the Palla division of the same patti; on the west by Dhángu Malla and on the south and east by the Langúr patti. The Langúr patwári, resident in Ghúsa, collects the land-revenue of this patti also. Dasmeri in Karaundu Walla lies in latitude 29°-57″ and longitude 78°-37′-15″.

Karnprayág, a village situated at the confluence of the Alaknanda and Pindar rivers in north latitude 30°-15′-43″ and east longitude 79°-15′-29″, at an elevation of 2,270 feet above the level of the sea (bungalow 2,600 feet), lies in patti Taili Chandpur and parganah Chandpur of British Garhwál. There is a dispensary, a school, and a small bázár here. The Pindar is crossed by an iron suspension bridge of 184½ feet span on the road leading to Nandprayág and Gopeswar. There is also a road by Chhatwa-pípal crossing the Alaknanda by a bridge there and joining the main pilgrim route by Srínagar for Kedárnáth. Karnprayág contains a temple named after Karna and is one of the places of pilgrimage at the confluence of great rivers. On each side of the junction are the remains of small temples of the usual Turk's cap style. The road

from Adbadri to Karnprayág consists of a gentle descent along the Bhararigár to its confluence with the Pindar at Simli, the residence of the patwári. Chandpurgarh is passed close to the road on the left. (See CHANDPURGARH). At Simli the Bhararigár is crossed by a *sánga* and lower down the Pindar can be passed by a *jyúla* or rope bridge. There is an old temple sacred to Gobindnaráyan at Simli and the remains of three others. The road follows the left bank of the Pindar to Karnprayág, distant three miles. The hills on each side are precipitous and thickly clothed with forest which gives shelter very often to tigers.

Kartiyá, a halting-place on the left bank of the Mandhál river on the road between Páori and Dháron, is situate in patti Painún of parganah Talla Salán in Garhwál, in latitude 29°-39′-20″ and longitude 78°-56′-7″, distant 12 miles 2 furlongs 29 poles from Chauránidhar and 8 miles 4 furlongs 25 poles from Sont Páni. The road to Kartiya from the left bank of the Nyár passes up by the villages of Chauránidhar and Chingadi and descends to the valley of the Walsagadh, crossing the bridge and again ascending to Rikhini-khál, 3 miles 6 furlongs. Hence a descent leads to the Semalsera rivulet, crossing the rivulets at Páli, Nansain, Ghatrauli and Gadyún, 4 miles 5 furlongs 27 poles. Continuing alternating ascents and descents the Pápari rivulet is crossed and the descent to the left bank of the Mandhál river is made, which is crossed by a level ford. The encamping-ground can be made on either side of the river.

Káshipur, a municipal town in the Tarái district in the parganah and tahsíl of the same name, is situate on the left bank of the river Dhela at a distance of about 45 miles from Naini Tal. The population, in 1872, numbered 13,113 souls, and in 1881 there were 14,667 inhabitants (7,112 females), of whom 8,477 (4,074 females) were Hindus and 6,190 (3,038 females) were Musalmáns, living in an area of 761 acres, or 19 to the acre. The occupations of the males were as follows;—153 servants of the municipality; 92 priests; 40 connected with law and medicine; 80 dancers and musicians; 240 servants, 102 engaged in commerce; 267 carriers; 765 engaged in agriculture; 139 masons and carpenters; 1,311 workers in textile fabrics; 802 dealers in food and drink; 520 workers in vegetable and minerals, including water-carriers and sweepers, and 600 labourers and others.

There is a fair-sized bázar towards the centre of the town, consisting chiefly of brick-built houses : elsewhere the houses are for the most part the ordinary mud and tile huts. The *muhallahs* or wards of the town number seventeen :—Pakka-kot ; Katora-tál, from a lake of that name ; Khálsa or revenue-paying ; Kánúngoiyan, where the kánúngos reside ; Rájwára ; Lâhoriyán ; Kila or fort ; Ali Khán Pathan ; Thána or old police-station ; Khatriyán ; Bánsphorán, or ward of the bambu-workers ; Katramáliyán, from the gardener caste ; Sikhán ; Rahím Khán Pathán ; Bagícha Káshi and Rámtaliya. The whole country at a distance of about two miles to the north of the town is still pure *tarái*, and this coupled with the fact that in the rains the back-water of the Dhela blocks up the drainage renders the town peculiarly unhealthy. Towards the close of the rains, when the surrounding swamps commence to dry up, a malarious mist arises which is the cause of fever and dysentery. These evils are much increased by the presence of large excavations throughout the site from which earth has been dug to construct the mud houses which form the principal portion of the town. The principal buildings are the tahsíli, police-station, dispensary, schools, and a garden house constructed by Rája Shiuráj Singh for the reception of visitors. The Rája's own residence is an unpretending building of no architectural merit. There are two market days in the week with a brisk trade in cotton cloths, grain, iron and brass cooking utensils, salt, pepper, turmeric and other hill produce. The inhabitants in former days were almost entirely Hindu, but Musalmáns have now settled here in considerable numbers and now number three-sevenths of the whole population. The trade and importance of the town has declined of late years : but there is some hope that in a few years there will be some improvement in this respect. The high road from Moradabad to Rámnagar runs close by, and thence a cart-road leads to the new station of Ránikhet, from which it is continued on to Almora.

The only family of any importance is that of Shiuráj Singh, C.S.I., created Rája of Káshipur by the British Government. He represents the junior branch of a Raotela family, from which sprang Lál Singh, ancestor of the titular Rája of Almora, and Mohan Singh, once Rája of Kumaon for a short time, of whose history an

account has been given elsewhere.[1] Mahendra Singh retired first to Rudrpur and then to Kilpuri in the Tarái, but owing to bad management this parganah was reduced to a swamp and was rendered so unhealthy that, on the petition of the representatives of the family it was exchanged for the confirmation of possession in taluka Chachait. On the recommendation of Mr. John Inglis Chachait was again exchanged for the forfeited estate of the Nawáb of Afzalgarh in parganah Rehar of the Bijnor district after the mutiny, and since then the family has grown in importance. The settlement in Káshipur dates from about 1840, when a plot of land was granted by the Pande zamíndárs, on which the present residence of the Rája was built. Rája Shiuráj Singh has since acquired, by loans and advances, the proprietary right in 18 or 20 villages in the parganah, and is now an Honorary Magistrate and important landholder. The municipality was established in 1872.

General Cunningham has identified the Govisana visited by Hwen Thsang with the old fort near the village of Ujain one mile to the east of Káshipur[2]. He writes[3]:—

Govisana, Ujain.

"The old fort of Ujain is very peculiar in its form, which may be best compared to the body of a guitar. It is 3,000 feet in length from east to west, and 1,500 feet in breadth, the whole circuit being upwards of 9,000 feet or rather less than 2 miles. Hwen Thsang describes the circuit of Govisana as about 12,000 feet or nearly 2¼ miles; but in this measurement he must have included the long mound of ruins on the south side, which is evidently the remains of an ancient suburb. By including this mound as an undoubted part of the old city, the circuit of the ruins is upwards of 11,000 feet, or very nearly that given by Hwen Thsang. Numerous groves, tanks, and fish ponds still surround the place. Indeed, the trees are particularly luxuriant, owing to the high level of the water, which is within 5 or 6 feet of the surface. For the same reason the tanks are numerous and always full of water. The largest of these is the Drona-ságar which, as well as the fort, is said to have been constructed by the five Pándu brothers for the use of their teacher Drona. The tank is only 600 feet square, but it is esteemed very holy, and is much frequented by the pilgrims on their way to the source of the Ganges. Its high banks are covered with Sati monuments of recent date. The walls of the fort are built of large

[1] See Gaz. XI. 606 and preceding pages. Kunwar Partab Singh sued Lál Singh for a share in Chachait, but his claim was dismissed by the Sadr Diwáni Adálat. He then petitioned Government, who gave him Rs. 250 a month (1820). He was a minor when he succeeded, and Lál Singh had held possession as head of the family and retained it, and the grant of Chachait to Gumán Singh was confirmed. Partáb Singh's claim to Bázpur was also negatived. To Collector, Moradabad, 30th October, 1832: to Government, 5th July, 1836: from Government, 30th July, 1836. [2] Gaz. XI. 462. [3] Arch. Rep. I. 253.

massive bricks, 15 inches by 10 inches by 2½ inches, which are always a certain sign of antiquity. The general height of the walls is 30 feet above the fields, but the whole is now in complete ruin and covered with dense jungle. Shallow ditches still exist on all sides except the east. The interior is very uneven, but the mass has a mean height of about 20 feet above the country. There are two low openings in the ramparts, one to the north-west and the other to the south-west, which now serve as an entrance to the jungle, and which people say were the old gates of the fort."

"There are some small temples on the western bank of the Drona-ságar; but the great place of worship is the modern temple of Jwála Devi, 600 feet to the eastward of the fort. This goddess is also called Ujaini Devi and a great fair is held in her honour on the 8th day of the waning moon of Chait. Other smaller temples contain symbols of Mahádeva under the titles of Bhutesar, Muktesar, Nágnáth, and Jágeswar. But all these temples are of recent date, the sites of the more ancient fanes being marked by mounds of various dimensions from 10 to upwards of 30 feet in height. The most remarkable of these mounds is situated inside the northern wall of the fort above the ramparts. This mound is called Bhím gaja or Bhím-gada, that is Bhím's club, by which I understand a large linga of Mahádeva. Were it not for this name I should be inclined to look upon this mound as the remains of a palace, as I succeeded in tracing the walls of what appeared to have been a large room 72 feet in length from north to south by 63 feet in width, the walls being 6 feet thick. About 500 feet beyond the north-east angle of the fort there is another remarkable mound which is rather more than 32 feet in height. It stands in the midst of a quadrangular terrace, 600 feet in length by 500 feet in breadth, and, as well as I could ascertain from an excavation at the top, it is the remains of a large square temple. Close by the east and within the quadrangle there are the ruins of two small temples. To the eastward of the Jwála Devi temple, there is a curious circular flat-topped mound of earth, 68 feet in diameter, surrounded by a brick wall from 7 to 11 feet in height. It is called Rámgir Gosáin-ká-tíla, or the mound of Rámgir Gosáin, from which I infer it is the burial-place of a modern Gosáin. To the south of the fort near the temple of Jágeswar there is a third large mound, 22 feet in height, which was once crowned by a temple of 20 feet square inside. The bricks have only recently been removed and the square core of earth still remains perfect. To the westward of this last is a fourth mound on which I traced the ruins of a temple 30 feet square standing in the midst of a raised quadrangle of about 500 feet square. Besides these there are 10 smaller mounds, which make up altogether 14, or just one-half the number of the Bráhmanical temples which are mentioned by Hwen Thsang. The only ruin which appeared to me to be of undoubted Buddhist origin was a solid brick mound 20 feet in height to the south-west of Jágeswar Mahádeva and close to the small village of Kháqpur. The base of the mound is upwards of 200 feet in diameter. The solid brickwork at the top is still 60 feet thick, but as it is broken all round its original diameter must have been much greater, probably not less than 80 feet. But even this larger dimension is too small for a *stupa* of 200 feet in height of the hemispherical form of Asoka's time. A *stupa* of that early period even when provided with both plinth and cupola would not have exceeded 100 feet in height; unless, *therefore*, we may

suppose there is a mistake of 100 feet in the text of Hwen Thsang, I feel quite unable to offer any identification whatever of the Buddhist remains of Govisana as described by the Chinese pilgrim."

Káshipur is named after its founder Káshináth Adhikári, who according to one account was a servant of Rudra Chand (1565—97 A. D.) and according to another was employed[1] by Báz Bahádur Chand (1638-78 A. D.) and this is the more probable. It is said that the site selected belonged to four villages, in one of which was a noted temple of Ujaini Devi, a frequent place of pilgrimage in those days. It is doubtful whether this corresponds with the present site, and the tradition inclines to place the first settlement within the precincts of the Ujain village, a position far to be preferred, being well raised above the surrounding country instead of being within the influence of the river-floods. It was always a place of importance under the Chands. Siunáth, son of Káshináth, built the village, and planted the groves of Siunáthpur. Ramadatta Adhikári was governor in 1744, and his descendant in 1844 was a patwári in Gangoli. Sib Deo built the fort here about 1745 and gave it in charge first to Hari Rám and then to Siromani Dás, and here Sib Deo himself was murdered by the garrison in 1764.[3] Siromani Dás was succeeded by his sons Nandrám and Har Gobind, whose family retained possession until the British occupation, when Sib Lál, nephew of Nandrám and son of Har Gobind, was found as farmer in Káshipur.

Katholsyún, a patti of parganah Dewalgarh in British Garhwál, is bounded on the north by the Ganges; on the south, by Ghurdursyún; on the east, by Chalansyún and Bidolsyún: and on the west by Ráwatsyun, Idwálsyún and Nádalsyún of parganah Bárahsyún. This patti was formed from Dewalgarh in 1864. In 1864 Fatehpur was received from patti Idwálsyún. The revenue of this patti is collected by the tahsíli at Srínagar. It contains the valley of the Khath-gadh, which flows into the Kandha-gadh, a tributary of the Ganges, on the right bank. The roads centering in Srínagar pass through the patti.

Katyúr Malla, a patti or sub-division of parganah Dánpur in Kumaun is bounded on the west by patti Pindarwár of parganah Badhán of Garhwál; on the south by pattis Bichhla and Talla

[1] The statement in Gaz. XI. 462 that Káshináth founded Káshipur in 1718 A. D. should be changed to 1718 *san.*=1639 A. D. [2] Gaz. XI, 581, 586, 589-90. [3] *Ibid.* 594.

Katyúr, and on the north by Pindarwár and Painkhanda of Garhwál. It contains the drainage area of the upper part of the Gumti river and the valley of the Lahor river. The valleys of the northern tributaries of the Gumti are studded with tea-plantations, amongst which are those of Megri, Anila, Ayártoli, and Baijnáth. The road from Someswar crosses the Kausáni range and passing by the temple of Kapileswar and Baijnáth proceeds to Karnprayág. From Baijnáth another road passes down the Gumti valley to Bágeswar. The southern portion is drained by the Gumti, while the Lahor river drains the northern half, the Magru-ká-danda range (6,294 feet), in which the Párkot peak (6,436 feet), also is situate, forms the water-parting between the two. The temple of Baijnáth nearly in the centre of the southern boundary of the patti lies in latitude 29°-54′-24″ and longitude 79°-39′-28″, at an elevation of 3,545 feet above the level of the sea. The patwári resides in Mawai and there is a school in Titoli. The principal villages are Gheti, Púrudha and Pujena. 671 *bísis* are held as *gúnth*, 242 free of revenue and 2,888 in fee simple: for statistics see KATYÚR BICHHLA.

Katyúr Bichhla, a patti of parganah Dánpur in Kumaun, is bounded on the north by Katyúr Malla; on the west by Giwár Palla and Walla; on the south by Borárau Palla and on the east by Katyúr Talla. This patti was separated from Katyúr Malla at the recent settlement and comprises the southern half of the valley of the Gumti commonly known as the Baijnáth or Katyúr valley. To the west the Birchuwa peaks attain an elevation of 7,427 and 8,042 feet respectively. The principal villages are Dyunái, Kansári, Una and Band and Kaulág, Khaderi and Bhuturiya to the south of the tea-plantations of Kausáni and Damlot. The road from Someswar to Baijnáth passes north by the Kapleswar temple in this patti. The statistics of the Malla, Bichhla, and Talla pattis may be shown thus:—

Katyúr.	Assessable area in *bísis*.				Assessment in Rupees.				Population.	
	Total.	Cultivated.		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigation.	Dry.							
Malla	2,110	310	763	1,036	148	189	404	1,484	985	866
Bichhla	2,025	403	809	812	122	245	459	1,760	964	881
Talla	1,666	432	426	806	233	312	513	1,726	843	671

The incidence of the present land-revenue on the cultivated acre falls at Re. 1-6-1 in the Malla patti, Re. 1-7-3 in the Bichhla and Rs. 2-0-2 in the Talla patti: on the total assessable area the incidence is Re. 0-11-3, Re. 0-13-11, and Re. 1-0-7 respectively. 481 bísis are held in *gúnth* and 2,072 in fee-simple. The patwári resides in Nautyár, where there is a school.

Katyúr Talla, a patti of parganah Dánpur in Kumaun, is bounded on the north and west by the other Katyúr pattis; on the south by Borárau Palla and Kharáhi; on the east by Dúg and Talla Dánpur, and on the north-east by Talla Dánpur. It comprises the lower courses of the Gúmti, Lahor and Sarju rivers from some distance west of their influence to below Bágeswar. The Sarju receives on its right bank the Lahor river, which has its sources in the Malla patti and is separated from the Kanál-gadh on the north by the Bor and Párkot ranges: further south the Gúmti joins the Sarju at Bágeswar. The Sarju itself flows nearly from north-east to south-west through the patti. Besides the commercial village of Bágeswar noticed elsewhere the only important villages are Kháfila-khet, Bamrási and Dungargaon. From Bágeswar roads branch off to Baijnáth on the west; Askot on the east; Milam on the north and three routes to Almora on the south. At the recent settlement the portions of this patti lying to the east of the Sarju comprising some thirty-three villages were transferred to the newly-created patti of Dúg and ten to the north of the Kanál-gadh to Talla Dánpur, whilst Kháfila-khet and twenty-five other villages in its vicinity were received from Kharáhi. One village was transferred to Chálsi and two to Bichhla Katyúr: see further KATYÚR BICHHLA. The patwári resides in Bágeswar; there is a school in Amtora.

Writing in 1821 Mr. Traill says:—"Katyúr has a greater proportion of culturable land lying waste than any other subdivision in the province, a circumstance which must wholly be ascribed to its notorious unhealthiness during the summer and autumn." In the Bhábar and lower hills, the absence of cultivation and the presence of thick jungle produce similar results, but with the disappearance of the causes of unhealthiness the climate improves. Katyúr, however, has always been remarkably open and free from

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jungle, whilst the presence of two large streams render the greatest facilities for irrigation and Bágeswar for disposal of produce, and to the lowness of elevation could alone be ascribed the presence of malaria which so long distinguished the valley. Under the Chands criminals were banished to Chukam on the Kosi, Katyúr and Khatsár in Giwár and there allowed to live as long as the climate permitted them. This evil reputation was sufficient to keep cultivators away, so that the condition of the sub-division since the introduction of British rule showed no improvement, the advantages arising from the security of property and profits to the cultivators being more than counterbalanced by the desertion of the cultivators. These were chiefly inhabitants of Garhwál, who during the late government had emigrated from thence to avoid their harsh and tyrannical task-masters and now returned to their homes. These causes operated to give a very low assessment at the second triennial settlement as an encouragement to cultivators to settle in the valley. In 1821, the number of houses in the whole subdivision scarcely exceeded the number of villages, and the number of deserted villages almost equalled the number of those nominally inhabited. The old *kánúngoi* papers gave an area of 1,500 *alis* exclusive of lands assigned to religious purposes; but here they were worse than almost any other parganah and in 1821 only 674 *alis* were cultivated and 44 held in *hak-padhánchári*. The assessment in 1807 amounted to Rs. 644; in 1815 to Rs. 588; in 1819 to Rs. 796, and in 1820 to Rs. 853, or nearly one rupee per *ali*. Circumstances have so changed owing to the introduction of tea-cultivation and the consequent clearing of the land and improvement of the climate that the subdivision is not now more unhealthy than any other similarly situated in Kumaun. The land-revenue has trebled, but the exact figures for comparison owing to changes in area could not be taken out without considerable labour. Still in older times the tale must have been different, for Kárttikeyapur or Kabírpur was the old Katyúra capital and ruins of a considerable town still exist near Taili and Seli Hát and around the forts of Gopálkot and Ranchula.

Kauriya Palla, a small patti of parganah Tallá Salan of British Garhwál, lies between Síla Malla on the south and west and Kauriya Walla on the north and east. A portion of the Páori and Kohd-

wára road passes through its north-western corner. The only important villages are Majína and Húli. The former is on a cross path connecting the Kohdwára and Maidi valley roads. The peak of Kálágarh at the south-eastern extremity of the patti has an elevation of 6,065 feet above the level of the sea. Up to 1864 this was not a separate patti, but comprised a part of Kauriya. The patwári of Síla Malla, resident in Muára, collects the land-revenue of this patti also.

Kauriya Walla, a patti of parganah Talla Salán of British Garhwál, was formed from Kauriya at the recent settlement in 1864. It is bounded on the north by the Langúr patti of parganah Ganga Salán and Malla Badalpur of parganah Talla Salán; on the east, by the latter patti; on the south, by Malla Síla and on the west by Kauriya Palla. This patti contains the valley of the Maidi river, along which a fair road runs, meeting the Khátali and Kohdwára road in the north-western corner. The patwári of Badalpur Malla, resident in Toli, collects the land-revenue of this tract also.

Kumaon, the principal district of the Kumaon Division, includes the tahsíls or sub-divisions of Almora, Káli Kumaon, and the Bhábar, and lies between north latitude 28°-14′-45″ and 30°-50′-0″; and east longitude 76°-6′-30″ and 80°-58′-15″, with an estimated area of 3,680,000 acres or 8,000 square miles, of which 88,611 acres are culturable and 198,059 acres are cultivated (27,000 irrigated). It is bounded on the north by Tibet (Tibbat); on the east by Nepál; on the west by Garhwál, and on the south by the Tarái. There are 19 parganahs containing 125 pattis as follows :—

Fiscal sub-divisions.

Parganah.	Patti.	Parganah.	Patti.	Parganah.	Patti.
1. Bárahmandal.	Bisaud Malla.	2. Chhakháta,	Chhakháta.	5. Dárma ...	Byáns.
	Ditto Bichhla.	3. Chaugarkha.	Dárun.		Chaudáns.
	Ditto Talla.		Kharáhi.		Dárma Malla.
	Borárau Palla.		Lakhanpur Malla.		Ditto Talla.
	Ditto Walla.		Lakhanpur Talla.	6. Dhaniyákot	Chauthán.
	Dwársaun.		Rithugárh.		Dhaniyakot.
	Kairarau.		Rangor.		Uchákot.
	Kálígár.		Sálam Malla.		Simalkha.
	Khaspurja.		Ditto Talla.	7. Dhyánirau,	Bisjyúla.
	Uchyúr.	4. Dnpur ...	Dánpur Malla.		Chhabís Dumaula.
	Ryúni.		Ditto Bichhla.		Chaubhainsi.
	Syúnara Malla		Ditto Talla.		Chaugadh.
	Ditto Talla.		Dúg.		Malli Rau.
	Tikhún Malla.		Katyúr Malla.		Talli Rau.
	Ditto Talla.		Ditto Bichhla.	8. Gangoli ...	Bel.
	Athagúli Palla.		Ditto Talla.		Bherang.
	Ditto Walla.		Nákúri.		Baraun.
					Kansyár.

Parganah.	Patti.	Parganah.	Patti.	Parganah.	Patti.
8. Gangoli ...	Pungaraun.	12. Páli—(*concluded*).	Dora Bichhla.	15. Síra ...	Ramgar Talla.
	Athgáon.		Ditto Talla.		Athbisi Malla
9. Juhár ...	Juhár Malla.		Giwár Palla.		Ditto Talla.
	Goriphát.		Ditto Talla.		Bárabisi.
	Tallades.		Ditto Walla.		Dindihát.
10. Káli Kumaon.	Chálsi.		Kakalasaun Malla.		Mali.
	Chárál Malla.		Ditto Talla.	16. Shor ...	Kharáyat.
	Ditto Talla.				Kharakdes.
	Gumdes.		Nayán Palla.		Mahar.
	Gangol.		Ditto Walla.		Nayades.
	Khilpattiphát.		Silaur Malla.		Rawal.
	Pálbelon Malla.		Ditto Talla.		Seti Malla.
	Ditto Talla.		Sult Malla.		Ditto Talla.
	Pharka.		Ditto Palla.		Saun.
	Regarúbán.		Ditto Walla.		Waldiya Malla.
	Sipti.		Ditto Talla.		Ditto Bichhla.
	Sui-bisang.	13. Pháldakot,	Chaugaon.		Ditto Talla.
	Tallades.		Dhúraphát.	17. Askot ...	Askot Malla.
	Ass.		Kosyán Malla.		Ditto Talla.
11. Kota ...	Kota Malla;		Ditto Talla.	18. Kotauli ...	Kotauli Malli.
	Ditto Talla.		Kandarkhuwa.		Ditto Talli.
12. Páli ...	Chaukot Malla			19. Mahryúri...	Mahryúri Dolphat.
	Ditto Bichhla.		Malli Doti.		Ditto Malli.
	Ditto Talla.		Agar.		Ditto Bichhli.
	Dora Malla.	14. Rámgár ...	Rámgár Malla.		Ditto Talli.

Chhakháta, Kota and parts of Dhaniyákot, Dhyánirau, Rámgár, and Phaldákot belong to the Bhábar tahsíl. Káli Kumaon, Síra, Shor, Askot, Dárma, and part of Dhyánirau are managed from Champáwat and the remainder from Almora. The thoks or pattis forming the sub-divisions of parganahs do not in all cases represent the similar divisions of the same name existing under the native governments. In former times it was the practice to remunerate the chief officers of state and the thokdárs or commandants of the forces in the field by assigning for their support the revenue of various villages often in different parts of the parganah. In Páli, where there was always a large military force cantoned to watch the frontier of Garhwál and in Bárahmandal around Almora, these assignments were very numerous, and the villages of each grant formed the thok or patti of the thokdár or kamín. Under the Gorkhális, also, all villages were classed together which had the same kamín or thokdár. A remarkable instance of this arrangement was patti Silkána composed of villages scattered all over the district, the revenues of which were assigned for the manufacture of gunpowder and patti Mahryúri, which was rent-free on condition that the inhabitants supplied carriers for ammunition and supplies in time of war. This artificial arrangement was found so highly inconvenient for revenue and police purposes that it was

abandoned in 1821, and the natural sub-divisions were restored.[1] The smaller parganahs were also absorbed as pattis of the larger to which they formerly belonged; thus Uchyúr, Dwársaun, Khaspurja, Bisaud, and Ryúni were included in Bárahmandal; Chaugarkha, Sálam, and Kharahi in Chaugarkha; Agar, Rámgár and Chhakháta in Chhakháta; Dhaniyákot, Uchakot, Simalkha, and Chauthán in Dhaniyákot; Síra and Askot in one parganah; Dhyánirau and Chaubhainsi in one parganah; Katyúr and Gangoli in one parganah, and the Bhot country in one parganah making in all fourteen parganahs.

The Shor tahsíli was abolished and Gangoli was added to Almora, whilst Shor, Síra, and Askot were transferred to Káli Kumaon. Further changes were carried out at the recent settlement (1863-73) which resulted in the distribution of the area given above. These alterations of area and designation have been so radical that it would be unsafe and unprofitable to describe them at greater length here, and the notice of each patti must be referred to for further particulars.

Physical geography.

The general physical geography of the district has been noticed in the first volume. Kumaon is separated from Garhwál by a line partly natural and partly artificial. Leaving the Tibetan water-parting ridge at a point east of the Unta-dhúra pass the boundary follows the ridge on which the pass is situate to the Nanda Devi peak; thence it descends in a direction a little to the west of south, and crossing the Pindar ascends to the top of a range which flanks that river on the south. This it follows to a high point called Badhángarh, from which it strikes across the head of the western Rámganga and its Deghát feeder to the ridge separating this river from the basin of the Nyár. It keeps to this ridge for some miles in a southerly direction; and where the ridge turns off to the west the boundary descends to the Rámganga, which it crosses and passing through the outer ranges falls into the frontier line of the plains districts near Kotirao on the Phíka river, about midway between the Kosi and the Rámganga. On the east, the Káli separates Kumaon from Nepál, along its entire course up the Lipu-lekh pass into Tibet. It is to be remembered that the principal stream of the Káli loses that name

[1] To Board, dated 14th March, 1821; to Board, dated 21st May, 1821; from Board, dated 18th March, 1822.

above Garbiya in Byáns, and is called there the Kuthi-Yánkti; the Káli being the smaller affluent which comes down from the Lipulekh pass. On the north, the water-parting ridge separates Tibet from Kumaon. On the south it follows an irregular line from five to 15 miles from the base of the outer range of hills. On the west the boundary line extends for about 165 miles: on the south for 90 miles; on the east for 130 miles; and on the north for 75 miles. The greatest breadth from north-east to south-east is 140 miles and the least from east to west is 40 miles, the average breadth being about 90 miles.

Mountain systems.

We have now to consider the arrangement of the mountain systems, and with them the valleys that form the drainage channels, for both are of necessity laid out on the same general plan and hold the first place of importance in a country such as this. In the Himálaya it is observed[1] that all the main ridges and valleys have a constant tendency to follow directions either parallel or at right angles to the main line of water-parting. This tendency, it is true, is often disguised by the rapid succession of several sudden changes of direction which when represented on the small scale of our maps gives an apparent obliquity to both ridges and rivers which has no existence in the elementary portions of which they are composed. In the western Himálaya this obliquity is observed to take one direction more frequently than any other, *i.e.*, such as to give a direction of north-north-west and south-south-east to a ridge the elements of which run from north-west to south-east. Thirdly, it is observed that the accumulation of the waters within the outer range of hills finds a passage to the plains in very few outlets. In the present examination we have to go over the ground in part already noticed in a previous volume; but our observations will be as brief as possible. Taking the great water-parting ridge to the north we find that it is unbroken from Nepál to Basáhir, and that the whole of the drainage to the south of it finds its way to the plains on the extreme west in the Jumna, with which we have nothing more to do in this notice; in the middle by the Ganges and on the east by the Káli. Between the Ganges and the Káli there is no stream

[1] These observations on the physical geography of the province are based on matter placed at my disposal by General R. Strachey and the records of the Survey of India.

which has its origin more than 40 or 50 miles from the plains. The cause of this diversion of the northern streams to the east and to the west is to be found in a series of longitudinal ranges which extend across the southern half of the district and by the help of cross ridges by which they are linked together form a complete barrier against the snow-fed streams, except through Barmdeo and Hardwár. The separation of the drainage area of these outlets takes place along a ridge drawn transversely from the great northern water-parting to that barrier first mentioned which on the west separates the drainage basin of the Rámganga from the Ganges and in the north and east that of the Kosi from the affluents of the Pindar, Sarju, and Káli; on the west, except in Lohba, it follows the boundary between Kumaon and Garhwal; and on the east the line from Bandani-devi near Almora by Dol to the connecting link with the Gágar range; passing where these two meet at the north to the great peaks of Nanda-devi and Nanda-kot.

Minor river basins.

An examination of the somewhat complicated network of ridges of the southern half of the mountains will show that its most important elements consist of two principal longitudinal ranges from twenty to thirty miles apart, the crest of the outer or southern of which is about ten to fifteen miles from the Bhábar or plains. The more northern of these ranges is nearly continuous throughout the entire length of Kumaon and Garhwál: the southern is broken through near its centre for a distance of about ten miles. From both of these ranges branch off many transverse ridges to the south-west, by two of which not otherwise of any particular importance a connected barrier is established between the longitudinal ranges on two lines; one at about forty miles from the Káli, the other at the same distance from the Ganges. The drainage of the area thus inclosed finds its way to the Ganges by the Rámganga and the Ḳosi, which pass through the breaks in the outer longitudinal range already mentioned, their drainage areas being divided by a third transverse ridge nearly half-way between the other two, like them in no way remarkable on any other account. The stream issuing from the hills between the Ganges and the Káli, other than the Kosi and Rámganga, have their sources never more than fifteen miles from the base of the hills, and always on the southern face of the outer longitudinal range.

Greater river basins.

The drainage area of the Káli is completed on the east by a great transverse ridge which runs down across western Nepál from the Tibetan water-parting. The Ganges system is bounded on the west by another great transverse range which traverses the Himálaya nearly at right angles for a distance of about seventy miles. It is connected with the Tibetan watershed to the north-west of Nilang and runs down to the extremity of the longitudinal ridge between the Jumna and the Ganges drawn across the outer portion of the mountains precisely similar to those between the Ganges and the Káli. The most northern of these longitudinal ridges is here little more than thirty miles from the foot of the hills, and by it the drainage of three-fourths of the entire breadth of the Himálaya is turned to the east into the Ganges at Deóprayág. Between this ridge and the plains there are no transverse ridges of any great importance, and the continuity of the longitudinal ridge being unbroken, except where the Ganges and Jamna debouch on the plains, the whole drainage falls into either one or the other of those rivers. To the west the Jamna system is separated from the Satlaj system by another great transverse ridge nearly conterminous for some way with the eastern boundary of Basáhr, then turning to the west around the head-waters of the Pábar and Giri to the longitudinal ridge to the north of the Kayarda Dún. The Jumna and Tons together find an outlet at Kálsi through the outer-range into the Dún.

Comparative areas.

The drainage area of the Ganges system comprises some 8,600 square miles, of which 5,000 square miles fall within British territory, the remainder being in Tíhri or protected Garhwál. The British portion of the basin of the Káli is about 4,000 square miles. The basin of the Kosi is about 800 square miles and of the western Rámganga about 1,200 square miles. The remaining 1,000 square miles of Kumaon and British Garhwál are occupied by that portion of the outer hills which discharges its drainage directly on to the plains in the Nandaur, Gaula, Baur, and other streams, all of which join the western Rámganga in the plains, and eventually the Ganges. It will be seen, then, that of the whole 12,000 square miles which are embraced in the two districts of Kumaon and Garhwál, 9,000 square miles or three-fourths

are drained by the Ganges and Káli, and of the remaining fourth the drainage of two-thirds is collected in the Rámganga and Kosi and of one-third, or one-twelfth of the whole area, the drainage flows down directly to the plains, but eventually joins the Rámganga.

Tibetan water-parting.

The principal line of water-parting along the Tibetan frontier is a ridge of great altitude. Its mean elevation is certainly upwards of 18,000 feet above the sea, and its highest peak, Kamet, reaches to an elevation of 25,373 feet. At no point is it possible to enter Tibet from Kumaon or Garhwál without rising to nearly 16,800 feet, and the passes are more commonly upwards of 17,500 feet, and the highest, that of Mana, 18,650 feet in altitude. The watershed is throughout the greater part of its length a simple longitudinal range, but its structure is a little complicated for a distance of about 30 miles in its western half between the passes of Unta-dhura and Níti; the ridge, which might otherwise have constituted the watershed, is here broken through a little to the south-east of Níti, and the drainage of the Girthi and Laphkhel valleys is hence enabled to flow to the south, joining the Dhauli at Malári. The watershed is thus thrown back to the north about 10 miles, and follows the range which unites the Balchha, Shalshel, Ma-rhi and Tung-jung-la passes with that of Níti. In the vicinity of Hoti this ridge is at one or two points almost entirely suppressed, so that the traveller may pass at once from Hoti to the great plateau of Guge with hardly any greater ascent than is requisite to carry him to the highest level of the plain, which is here not less than 16,000 feet above the sea. But this apparently easy route is in reality as completely closed as though the ridge immediately to the north of Níti was not broken through, for the gorge through which the Kiogadh or river of Laphkhel flows to join the Dhauli is impassable, and all access to Hoti is impossible, except by crossing one or other of the passes from the Níti valley or from Unta-dhúra above Milam.

Snowy range, Nanda-devi.

Both in Kumaon and Garhwál the most important of the masses of snowy mountains are found in groups along a line from 20 to 30 miles south of the water-parting with which they are, moreover, connected by lofty ridges covered with perpetual snow, whilst they are separated one from another by the deep gorges which carry off the drainage from

the southern face of the dividing ridge on to the outer Himálaya. The chief of these groups is that of which Nanda-devi is the culminating peak, and which attains a height of 25,689 feet above the level of the sea. The great ridge of Trisúl, which nowhere is less than 20,000 feet in elevation, for a length of 10 miles, is connected with Nanda-devi, but advanced about 10 miles in front of it to the south-west. Its three peaks are 23,406 (to the west), 22,490 and 22,360 feet high. To the north of the western peak are two others having elevations of 21,286 and 20,842 feet respectively, and to the south another having an elevation of 20,010 feet. The last separates the Bháiganga from the Kailganga, both of which are affluents of the Pindar. The eastern peak of Trisúl is connected with Nanda-devi by peaks having an elevation of 21,858, 21,624, and 24,379 feet respectively. Midway between the two latter a spur proceeds south-west, rising above the Pindari glacier to 20,740 feet, and in Nanda-kot to 22,530 feet. The spur connecting Nanda-devi with the Unta-dhura ridge proceeds almost due north from the peak (24,379 feet) close to Nanda-devi itself. To the north-west of Nanda-devi we have Dunagiri (23,184 feet) and two other peaks due east of it, 22,516 and 22,735 feet in elevation. North of these again is a group of peaks having elevations of 20,754, 21,341, and 23,220 feet respectively, the last of which is on the transverse ridge connecting the Unta-dhúra ridge with Nanda-devi and to the west of the pass. Between the pass and the transverse ridge is another peak having an elevation of 22,400 feet and to the east of the pass, the dividing ridge into Tibet has an elevation of about one thousand feet above the pass. The continuation northwards of the transverse ridge from Nanda-devi is broken in one place to admit of the passage of the Girthi river to Malári.

Badrináth group.

But little inferior to this cluster of peaks in magnitude or magnificence is the great group, including Badrináth, Kedárnáth and Gangotri, which lie to the west of Nanda-devi. It is in all not less than thirty miles in length and contains the Satopant peaks having an elevation of 23,240, 21,991, 22,060 and 22,388 feet respectively; then the Kunaling peaks at the glacier sources of the Vishnuganga, 20,038 and 21,226 feet, and connecting with the Badrináth or Chaukhamba peaks further south-west by two peaks 23,424 and 23,063

feet high. The Badrináth peaks, from east to west have an elevation of 22,901, 22,619 and 22,395 feet respectively, and due east of them is Nálikánta, having an elevation of 21,713 feet. To the west of the Badrináth group are the Kharcha Khand and Bharat Khand peaks above Kedárnáth, 21,695 and 22,844 feet respectively, continued further west in a ridge to the Bhágirathi crowned by a dozen peaks having an elevation of over 20,000 feet. On the eastern slope of the Kunaling peaks above mentioned lie the great glaciers Bhagat Kharak and Satopant, which are the sources of the holy stream flowing by Badrináth, and on the western slope of the same peaks lies the great glacier which gives the *Gaumukh* above Gangotri. To the north of Gangotri the peaks between it and the Tibetan water-parting form a continuation of those at the Mána pass: here we have three peaks above 22,000 feet, three above 21,000, and three above 20,000 feet. So that in this magnificent cluster we have of measured peaks four above 23,000; nine above 22,000, eleven above 21,000, and eight above 20,000 feet above the level of the sea, in a tract about 26 miles from north to south and 30 miles from east to west.

Minor groups.

The other groups of snowy peaks to which attention has to be drawn, though in themselves of vast proportions, assume a secondary importance when compared with the groups which we have just described. Amongst them may be mentioned the Jamnotri group, including Bandarpunch to the west in Tihri and which is also a place of pilgrimage to the devout. The group includes one peak which rises above 21,000 feet and three others exceeding 20,000 feet. Next comes the ridge separating the Mána from the Níti valleys culminating in Kamet already mentioned and having five peaks from north to south with an altitude of 23,862 (Mána) 21,198, 20,094 (Rataban), 21,747, and 22,141 feet respectively. In eastern Kumaun, east of the Nanda-devi group, we have the Pancha-chuli group between the Gori and the Dhauli, with peaks having an altitude from west to east of 22,661, 20,700, 20,783, 21,114 and 19,923 feet, and again the ridge to the north between the Dhauli and the Kuthi-Yánkti marked by a number of peaks above 20,000 feet and culminating in the great peak of Yirgnajung above Budhi in Byáns, having an elevation of 20,455 feet. The great clusters of snowy peaks divide

the great river basins from each other and the smaller groups divide sections of the great river basins from each other; thus Nanda-devi separates the Káli from the Ganges system; the Yirgnajung and Pancha-chuli minor group separate affluents of the Káli from each other; the Kamet minor ridge separates affluents of the Alaknanda from each other, whilst the Badrináth-Gangotri group separates the Alaknanda basin from that of the Bhágirathi[1].

River basins.

We shall now turn to the river basins, but as each of the more important rivers has a separate notice our observations will be very brief. The Káli (*q.v.*) on the east has its true source in the Kuthi-Yánkti (*q.v.*), which joins the Kálapáni (*q.v.*) river and takes the name of Káli. The Kuthi river has a south-easterly course to its junction with the Káli, when both turn suddenly south-west and attain a direction nearly at right angles to the water-parting ridge. Next comes the Dhauli (*q.v.*) and then the Gori (*q.v.*) both with a similar south-easterly direction meeting the Káli almost at right-angles. Next comes the Sarju (*q.v.*) with a similar south-easterly course after taking its great bend at Bágeswar. The minor streams which form affluents of these greater tributaries observe the same rule and fall into their principal streams at right angles to their course: such are the Gumti, eastern Rámganga and Ladhiya. The remotest feeders of the Alaknanda are to be found in the Kiogadh or Laphkel and Lauka streams rising at the foot of the Bálchha and Kingri-bingri passes. These run at right angles to the water-parting line, here running north, and join the eastern Dhauli at right angles and both pursue a course to the south-west along the north-western slope of the Nanda-devi cluster until checked by the Kamet ridge, round which it sweeps to the junction with the Vishnuganga (*q.v.*) at Vishnuprayág, after which comes the great bend almost due south as far as Karnprayág. The Alaknanda

[1] The following are the local terms in common use for hills and mountains:—*galli*, narrow path or pass; *ghátí* or *khál*, a mountain pass; *pathar*, *dhánga*, a stone; *patáli*, slate; *dási*, quartz or white-rock; *dhúra*, a high mountain range; *danda*, a ridge; *dhár*, a spur; *kántz*, a peak; *dhák*, open crest of a hill; *bánga*, *kot*, fort or peaked-crest of a hill; *tíba*, a peak; *tibri*, a small peak; *pákha*, side of a hill; *kurkura*, bare side of a hill usually with a southern aspect; *bel*, a precipice; *kuphur*, steep and rocky side of a hill; *kurála*, sloping side of a hill ending in a precipice; *paira*, landslip, avalanche; *khan*, a mine; *chína*, a pass or gorge; *kud*, steep side of a hill; *sen* or *saina*, a lawn, and *kol*, a ravine.

here receives the Pindar (*q.v.*) almost at right angles on its left bank and takes a course south-west to Hardwár, receiving the Mandákini (*q.v.*) and Bhágirathi (*q.v.*) on the right bank. All these rivers run an oblique course to their junction with the main drainage channel. The Jádh-Ganga flowing at right angles from the Tibetan water-parting on the north is met by the Bhágirathi flowing at right angles from its water-parting on the east and the united streams have a course for some distance south-west until they are turned again to the south-east. The minor river basins have been sufficiently noticed already. If we roughly divide into four nearly equal parts the longitudinal range that extends across Kumaon and Garhwál to the south of the Sarju and Pindar rivers, the most western end near Dudatoli, the middle near Bhatkot and the eastern near Jágeswar, and if we draw three transverse lines from these points to the plains we shall roughly mark out the basin of the Rámganga on the west and that of the Kosi on the east. The western boundary of the Rámganga basin being conterminous with the eastern boundary of the Ganges system and the eastern boundary of the Kosi system being conterminous with the western boundary of the Káli system. The outer longitudinal range at a distance of ten to fifteen miles from the plains is broken through by the Kosi and Rámganga. The eastern portion of the ridge turns the Ladhiya into the Káli and the western portion turns the Nyár into the Ganges. It would be unprofitable to follow all the minor ramifications, all of which are laid out on the same plan, and what is true of the hills as a whole is true of each of the component parts of each basin down to the smallest stream[1].

Waste lands.

There are no plains in Kumaon proper; as a rule, the base of one mountain touches the base of the next, leaving space only for a torrent between. Valleys some miles in length, but rarely so much as half a mile in

[1]The following vocabulary will in some measure explain the local nomenclature for the river systems:—*ganga* is applied to any great river; *nadi* to a small river; *gár* or *gádh* to a stream and its glen; *gadhera* or *yadua* to a rivulet; *rauti* (*rao* in the Bhábar) to one flowing only in the rains; *chhíro* or *chhinchara*, a waterfall; *muguro* or *dhára*, an artificial spout of water; *bhúmko* or *chhoiyo*, a spring; *jhadda*, a river swamp in the Bhábar; *naulo*, a covered well; *pokhar*, a tank; *khal*, a pond; *tál*, a lake; *kúlo* (*gúl* in the Bhábar), a water-distributing channel from a canal; *bán*, an embankment for a *kúlo*; *chapdulo*, *dob* or *dobara* are small *naulas* not built up; *domolo* or *dumaula* is the *prayága* or confluence of two streams; *bagar*, or *bugr*, land lying along the bed of streams usually the site of a burning *ghát*, Gaz. X., chapter IV., pages 169-200.

breadth, exist in some parts of the district—the Baijnáth valley in Katyúr, the Someswar valley of the Kosi, the valley of the Káli, &c. These valleys are for the most part undulating, and are usually irrigated and highly cultivated. The Bhábar tract is one long plain indented with spurs jutting out from the lower hills, and cultivated wherever irrigation can be practised. The waste lands of this tract are estimated at 500 square miles, and both here and in the hills such encouragement has been given to cultivators to bring fresh lands (*naubád*) under tillage that very considerable progress in this direction has been made of late years. Culturable waste in Kumaon, however, is neither extensive nor good of its kind; nearly all the land has been demarcated within the boundaries of some village or another, and but little remains unclaimed that can be made use of. In Garhwál, however, there are certain tracts reserved by Government which are said to be available for tea-plantations and the like, and information on this subject can be obtained from the Senior Assistant Commissioner in charge of Garhwál at Páori. The Commissioner reports that, so far as Kumaon is concerned, it would be better for an intending tea-planter to purchase a village with extensive pasturage ground than to attempt high cultivation on a small area, where manure in sufficient quantity is not procurable. Small villages with large tracts of jungle attached might be purchased in Káli Kumaon, Gangoli, Dhyánirau, and other parts.

Communications.

Communications in general are sufficiently noticed under the article GARHWÁL. The new railway from Bareilly to Naini Tal must revolutionise the communications in the lower hills and make valuable tracts which the difficulty of carriage had rendered of little value. The following list of the roads, imperial and local, and the distances between places of some note with the aid of the map will give all the practical information required regarding roads in Kumaon :—

From	To	Number of miles.	Remarks.
	Imperial roads.		
Almora ...	Someswar ...	19	Bridged.
Someswar ...	Gwáldam ...	21	„
Dwárahát ...	Ganái ...	10½	Partly bridged.
Ganái ...	Búngidhár ...	17¾	Not bridged.
Rámnagar ...	Dhikuli ...	7	Partly bridged.

From	To	Number of miles.	Remarks.
	Imperial roads.—(concluded).		
Dhikuli ...	Khairna ...	32¼	Bridged.
Bhainskhet ...	Dwárahát ...	12¾	,,
Ditto ...	Hawálbág ...	10¾	,,
Almora ...	Lohághát ...	52¼	Partly bridged.
Bastiya ...	Ditto ...	36½	Bridged.
Lohághát ...	Pithoragarh ...	27½	Ditto.
Almora ...	Ditto ...	55	Partly bridged.
Churang ...	Devidhúra	15	Bridged.
Almora ...	Haldwáni ...	42	,,
Rámgár ...	Naini Tál ...	13	,,
Almora ...	Ditto *viâ* Khairna,	31½	,,
Naini Tál ...	Káladhúngi ...	16	,,
Káladhúngi ...	Garpu ...	7	,,
Naini Tál ...	Lál-kua ...	26	
	Total imperial roads ...	469¾	
	Local roads.		
Someswar ...	Bágeswar ...	15¼	Bridged.
Baijnáth ...	Ditto ...	13	Partly bridged.
Someswar ...	Dwárahát ...	14	,,
Ganái ...	Panuwákhál ...	7¼	,,
Ditto ...	Másí ...	7¾	Bridged.
Másí ...	Sarái-khet ...	16½	Partly bridged.
Ditto ...	Dwárahát ...	16½	,,
Ditto ...	Bhikiyasain ...	12¼	Bridged.
Bhikiyasain ...	Muhán ...	22	Partly bridged.
Muhán ...	Dikhuli (iron-bridge),	6¼	Not bridged.
Khairna ...	Ránikhet ...	16¾	Bridged.
Ránikhet ...	Dwárahát ...	14	,,
Champáwat ...	Pharka ...	9½	Not bridged.
Almora ...	Bágeswar ...	27	Partly bridged.
Nayá Thal ...	Ditto ...	32½	Not bridged.
Benirág ...	Almora ...	43½	Partly bridged.
Naya Thal ...	Pithoragarh ...	25	Not bridged.
Askot ...	Ditto ...	30	Partly bridged.
Jhulághát ...	Ditto ...	12	,,
Bhuwáli ...	Bhím Tál ...	6	Not bridged.
Ditto ...	Jyúli ...	7	,,
Baitálghát ...	Ránikhet ...	16	,,
Dyárighát ...	Ránikhet ...	11	Bridged.
Hawálbág ...	Bágeswar *via* Binsar,	29	Partly bridged.
Bágeswar ...	Kapkot ...	14	,,
Hawálbág ...	Tákula ...	12	Not bridged.
Muhán ...	Marchúla ...	7	Partly bridged.
Kapkot ...	Pindari ...	37	Bhotiya paths bridged over the larger streams.
Ditto ...	Munsyári ...	40	
Milam ...	Ditto ...	40	
Thal ...	Askot ...	24	
Ditto ...	Tejam ...	14	
Ditto ...	Pípalta. ...	5	
Benirág ...	Chaukori ...	9	
Askot ...	Munsyári ...	30	
Ditto ...	Dárma ...	55	
Ditto ...	Byáns ...	58	
Ditto ...	Chaudáns ...	63	
	Total miles of local roads ...	818	

Routes in Kumaon.

Stage.	Distance.	Remarks.
1. Almora to Pindari.		
Tákula	15	Baniya, bungalow.
Bágeswar	12	Ditto.
Kapkot	13	Ditto.
Lwárkhet	9	Ditto.
Dhákuri	7	Ditto.
Kháti	7	Ditto.
Diwáli	6	Ditto.
Phurkiya	5	Ditto.
Pindari	3	Ditto.
2. Almora to Milam.		
Kapkot	40	As in No. 1.
Khárbugr	4	
Sháma	8	Baniya.
Tejambugr	8	Ditto.
Jáni	10	
Munsyári	12	Ditto.
Nilam Thalkot	8	
Rargári	8	
Bo-adiyár	5	
Marteli-Laspa	10	
Milam	9	Bhotiya shop.
3. Almora to Pithoragarh.		
Panuwa Naula	15	Baniya, bungalow.
Náini	11	Ditto.
Gangoli Hát	11½	Ditto.
Báns	11	Ditto.
Pithorahgarh	7½	Baniya.
Jhúlaghát	14	
4. Milam to Tibet.		
Milam	121	As in No. 2.
Shelong	7	Bad road, gradual ascent.
Topidunga	9	Cross Untadhúra.
Kyungar...	9	Across Jaintí pass.
Thajang	6	Hundes on road to Gyanima.
5. Pithoragarh to Dárma.		
Satgarh	10	Road good.
Askot (Dewai)	13	Descent to Charneagár, short steep ascent, then descent to Dewai.
Baiuwakót	10	Descent to Gori, crossed by *sanga* along right bank of Káli.
Dhárehúla	9	Road pretty good, fairly level.
Relagár	8	Houses left at Júma.
Khugultí...	7	Ascent to Khela : descent to Dhauli river.
Dur	7	Cross the river several times and ascend by Sobula.
Selaghát	7	Descent to river and upright bank crossing glacier.
Go	9	Cross river at Go.
Khimling	6	Take firewood from Go.
Dawai	5	In Hundes.

Stage.	Distance.	Remarks.
6. PITHORAGARH TO BYANS.		
Relagár	50	As in preceding.
Sosa	8	Ascent to Kela then very steep descent to ascent from Dhauli bridge to Dhanidhár.
Galagár	10	Undulating, descent.
Najangár	8	Steep ascent and descent over Nirpániya hill.
Budhi	9	Bad road with steps in places.
Garbiya	4	Arrangements for crossing passes made here.
Kálapáni...	...	Up eastern branch of Káli.
Dumkung	...	Foot of Lípu pass.
Taklakhar	...	Hundes.
7. ALMORA TO ASKOT.		
Dhawalchina	13½	Baniya.
Lakhtoli	12½	Ditto.
Beninág	14½	Ditto.
Butter	10	Ditto.
Hát	10	
Askot	6	

Other routes are as follows :—

From	To	Miles.	From	To	Miles.
Pithoragarh ...	Jhúlaghát ...	14	Almora ...	Bágeswar ...	27
Ditto ...	Almora ...	55	Ditto ...	Thal ...	59
Ditto ...	Thal ...	19½	Ditto ...	Kapkot ...	41
Ditto ...	Askot ...	21¼	Ditto ...	Pindari ...	77
Ditto ...	Nílam ...	54	Ditto ...	Someswar ...	18¼
Ditto ...	Chaudáns ...	57½	Ditto ...	Khairna ...	20
Ditto ...	Dárma ...	46¼	Ditto ...	Rámgár ...	19
Ditto ...	Kela ...	47½	Ditto ...	Dwárahát ...	26
Thal ...	Askot ...	15	Ditto ...	Ganái ...	36
Ditto ...	Bárechhína ...	45	Ditto ...	Devidhúra ...	29
Ditto ...	Bágeswar ...	32	Ditto ...	Pyúra ...	7
Ditto ...	Tejam ...	11	Devidhúra ...	Pharkiya ...	12
Ganái ...	Bhikiya ...	20	Naini Tál ...	Ránibágh ...	11
Ditto ...	Deghát ...	17	Ditto ...	Haldwáni ...	16
Deghát ...	Másí ...	8	Ditto ...	Káladhúngi ...	16
Bágeswar ...	Hawálbág ...	21	Ditto ...	Rámnagar ...	32
Ditto ...	Someswar ...	15	Ditto ...	Khairna ...	11
Ditto ...	Baijnáth ...	12	Ditto ...	Rámgár ...	13
Ditto ...	Gwáldam ...	20	Ditto ...	Bhím Tál ...	12
Someswar ...	Majhkáli ...	13½	Ditto ...	Ránikhet ...	23
Ditto ...	Dwárahát ...	14	Ditto ...	Pyúra ...	25
Ditto ...	Baijnáth ...	12	Ditto ...	Moradabad ...	64
Ránikhet ...	Dwárahát ...	14	Bhím Tál ...	Ránibág ...	5
Ditto ...	Khairna ...	12	Ditto ...	Rámgár ...	9
Ditto ...	Betálghát ...	17	Lohughát ...	Pithoragarh ...	27
Gurjiya ...	Muhán ...	6	Ditto ...	Pharkiya ...	9
Barmdeo ...	Banbasa ...	10	Champáwat,	Pharkiya ...	9
Ditto ...	Chorgaliya ...	29	Ditto ...	Lohughát ...	6
			Ditto ...	Barmdeo ...	34

Climate.

The climate varies according to the elevation, from the suffocating and deadly sultriness of the Bhábar to the perennial snow of the Himálaya. At Almora in the summer months the thermometer reads about 80° to 86° in the shade and at Naini Tál from 75° to 82°. During the coldest part of the winter months Almora has an average of about 40° and Naini Tál about 32°, but it is not unpleasant and the bright sun renders the cold little felt. Taking the average rainfall for the years 1860-61 to 1870-71, the records show sixty inches, but it naturally varies very much in localities but a few marches distant from each other. Naini Tál receives double the rainfall that Almora has owing to its situation on the southern face of the Gágar range, which attracts the rain-clouds and precipitates their moisture. The following table shows the rainfall for eleven years in inches :—

Period.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.
1st June to end of September.	63·6	25·6	57·1	48·2	39·9	22·6	42·3	71·2	62·2	44·4	47·8
1st October to end of January.	0·6	2·9	0·5	0·6	5·8	8·8	0·5	5·6	3·8	3·2	3·0
1st February to end of May.	6·3	6·2	9·5	6·9	10·0	18·4	4·7	10·1	11·4	5·4	7·9

As a rule no month in the year passes without rain falling in some part of the district. The rainy season commences about the middle of June and lasts up to the end of September. A winter fall of a few days' duration occurs in January, which becomes snow on the hills and rain in the valleys. Some years pass without any snow : the natives consider that they have reason to expect a snowy season every third year at all elevations above 5,000 feet. When it falls, it never lies but on the mountain-tops and ridges, and not even there except they be very lofty or densely covered with forests. On the Gágar range, which rises on the southern frontier to an elevation of between 7,000 and 8,000 feet, snow occasionally lies so late as the middle of May. There does not appear to have been any systematically accurate observations respecting the limit of perpetual congelation, except those taken by General Strachey. From these it appears that the heights crowned with perpetual snow extend from the 77th to the 81st degree of east longitude, and are confined within a belt of thirty-five miles in breadth, between the 30th and 32nd degrees of north latitude.[1]

[1] On the controversy as to the limits of perpetual snow see *Hutton*, Col. J. N. H. IV, 275 ; J. A. S. Ben. VIII, 181 (Webb) ; XVIII, 287, 296, 694, 964; XVI, 794 ; XVII (2) 203 ; XIX, 239 (Strachey).

The results of his observations further show that the snow limit which resists the effect of summer, recedes to a higher altitude on the northern or Tibetan slope of the mountains than on the southern or Indian side, having an elevation on the former of 18,500 feet, while on the latter it is permanently maintained at about 15,500 above the sea-level. From the close of the periodical rains to the beginning of February, the atmosphere is wonderfully transparent and brilliant, so that the seeming distance of objects is far less than the real. From the beginning of March, the distant peaks of the Himalaya become daily obscured by clouds about noon; and though this effect is frequently cleared away for a short time by transient falls of rain, it generally increases with the increasing heat of the season, until the haze becomes impenetrable to vision at the distance of a mile. This obscuration of atmosphere is not attributable solely to aqueous vapour, but appears to be the result also of dust, as the high westerly wind prevailing at the time is harsh and dry, and during the nights, which are calm and hazy, vegetables, and other objects exposed to the air, become covered with a light earthy matter. The malaria which produces such an effect in the Tarái extends into the depressed rich valleys on the banks of rivers, and generally into all places of low elevation. Captain Herbert says: "In the beds of the different rivers there are, as might be expected, various spots of a limited extent and of sufficient evenness of surface to be always objects of interest to the cultivator, though from their smallness scarcely entitled to the denomination of valleys. These spots generally occur in an advanced part of the rivers' course; and being, therefore, the lowest places in the mountains, are necessarily the hottest. In general they are fertile, yet are all considered more or less unhealthy, particularly at the breaking up of the rains; and when narrower than usual, so notoriously subject to the *awál* or jungle-fever as to be entirely neglected: instances occur in the beds of the Sarju and Káli: but where the width is rather greater, or the surrounding mountains not too lofty, they form the most populous, the most productive, and the most beautiful spots within the mountains." The character of the climate of Kumaon by Traill is decidedly unfavourable, and he gives a very formidable list of diseases as resulting from its influence: fevers, remittent and intermittent, contagious and typhus exhibiting the remarkably rapid and malignant features of the plague; small-pox, rheumatism, severe in character and common in its attacks; cutaneous diseases, universal; mortal or serious affections of the bowels, spleen, and lungs; dropsy and stone. Goitre or bronchocele is also prevalent in some places. See, however, under 'Medical' further on. Kumaon is subject to earthquakes. McClelland records eight that occurred between 1831 and 1835. The most severe was that of 1803, which destroyed many temples and houses. In 1851 one caused considerable damage at Almora; in 1871 a shock was felt at Naini Tal and again in 1880 an earthquake was, probably, the immediate cause of the disastrous landslip of that year.

The productions of the district—animal, vegetable, and mineral—have been noticed in the preceding volumes and need not be referred to here: so we shall proceed at once to the people and the local fiscal history, including tenures and village administration, also the income of the district from land-revenue, excise and

stamps and the medical and educational statistics which have not been before noticed.

Population.

In 1821, Mr. Traill estimated the population of Kumaon, at 6·5 per house, to amount to 164,000 souls. The next enumeration took place in 1852, when the total population was shown as 360,011 souls (169,808 females), of whom 81,796 were boys. Next comes the enumeration at settlement during 1863-68, which shows a total population numbering 394,922 souls, of whom 118,943 were men, 89,935 were boys, and 186,044 were females, giving an increase of 9·2 per cent. over the enumeration of the previous decade. The figures do not apparently include the Bhábar portion, for, comparing the total of the census records of 1872 with the portion recorded as applicable to Kumaon of the settlement report, the figures for the latter are 406,042 souls, of whom 213,975 (97,268 boys) were males and 192,067 were females. The figures for the whole of Kumaon, including the Bhábar, for the same year were 432,576 (201,677 females). In 1881 the population of the whole of Kumaon numbered 493,641 souls, of whom 232,587 were females. Distributed according to religion there were 479,948 Hindus (228,268 females); 11,261 Musalmáns (3,750 females); Christians 2,646 (663 females), Buddhists, 87 (43 females), and Jainas, 103. There were 5,148 villages with 70,245 houses and three towns with 2,719 houses, the urban population numbering 19,950 souls. The occupations of the males (261,054) will be noticed hereafter; but the fact that 150,704 were recorded as agriculturists and 12,423 as labourers sufficiently stamp Kumaon as being pre-eminently an agricultural district.

The population of Kumaon (493,641) and Garhwál (345,629) number 839,270 souls, and of these 823,134 are Hindus, 13,338 are Musalmáns, and 2,798 are Christians. But very few of the Musalmáns and Native Christians are natives of the hills, and for practical purposes the entire population of these hills may be classed as Hindu. They may be further sub-divided into (1) the aboriginal or at least long settled tribes of Khasiya Brahmans and Rájputs and their followers, the Doms; (2) the Hindu immigrants from the plains belonging to all classes; (3) the Tibetan immigrants in the Bhotiya tracts; and (4) mixed classes. It is more convenient

for us to follow the usual division into Brahmans, Rájputs, Baniyas and others, and commencing with the Brahmans we find them recorded as numbering 108,283 souls in Kumaun in 1872, of whom a numerous list is given. Those sub-divisions numbering over one thousand members each are Bhats, 2,494; Gujrátis, 1,003; Joshis, 6,557; Kabdwáls, 2,716; Kanaujiyas, 17,208; Khatkholas, 1,072; Maháráshtras, 2,496; Pándes, 4,780; Sárasútis, 6,703; Tiwáris, 3,641; and unspecified, evidently including the Khasiyas, 44,122. The census of 1881 shows 204,994 Brahmans without further distinction. Amongst the immigrants may be noted the Pants, Pándes, Joshis, Tewáris, Upádhyas and Páthaks.

Brahmans.

The Pants ascribe their origin to Maháráshtra or the Mahrátha (Konkan) country. They belong to the Bháradváj, Parásara and Vasishta *gotras* and the Mádhyandiníya *sákha*. The Pants state that some twenty-one generations ago their ancestor Jaideo came to Kumaon and obtained from the Rája of the time a grant of Uparora in Gangoli. In the tenth generation his descendants divided into four branches, named after Sharm, Srináth, Náthu and Bháudás. Sharm became a physician, Srináth the spritual preceptor of the Rája, Náthu a teacher of Puránik theology and Bháudás a soldier. The last mentioned acquired in camp and court a habit of eating flesh like his Khasiya soldiers and his descendants retain the custom. But the others confined themselves to vegetable food, as their present representatives do, and even oblige their wives who come from flesh-eating clans, like the Tiwáris and Joshis, to do the same. The Bháradváj Pants intermarry with Tripáthis or Tiwáris, Joshis and Pándes. They rarely marry Pants of the two other *gotras* and their customs and habits and manner of eating and drinking resemble those of other hill Brahmans. Their favourite object of worship is the Vaishnavi Sákti. The Sharmis are found in Uparora or Uprurha in patti Barháon, Kumulta, Jájut, Agar, Chhakháta, Dhári, Malaunj and Bairáti; the Srináthus in Tilári, Pándekhola and Agaráon; the Náthuis in Dubhálkhet, Jiuli and Silauti, and the Bháudásis in Syúnarakot, Garaun, Bhatgaon, Dhanauli and Khatauli. The most remarkable of the Bháudásis was Purukhottam Pant, the general who won Síra for Rudra Chand and lost his life in an attempt on

Pants.

Garhwál.[1] They say that his arms are still concealed in an inaccessible cave on the precipice near Sírakot. His descendant, Rudradatta, is the native gentleman to whom I am most indebted for my notes on local matters in Kumaon. The ancestor of the Vasisht *gotra*, Sábhu by name, is said to have come from Doti about the same time as Jaideo. They are found principally in Agaráon, Walna and Kurkoti. The Vashisht and Parásara Pants eat flesh and intermarry with the same castes as the Bháradváj Pants, whose customs and worship theirs too resemble. The Mankoti Rájas of Gangoli chose their principal servants from amongst these Pants.[2]

Pándes.

The Pándes are said to have come from Kot Kangra and from the plains. The latter obtained employment as *rasoyas* or superintendents of the Rája's food arrangements and the former as *purohits* or spiritual directors. The *gotras* are the Gautam, Bháradváj, Vatsa-Bhárgava, Kásyapa, Parásara, &c.; the *pravara* is Tripravara and Panchpravara and the *sákha* Mádhyandiníya. They marry with the Joshis, Lohánis, Pants, Páthaks, Tiwáris, Kanyáls and others. Sometimes they marry in their own clan, but not in the same *gotra*. Many of their sub-divisions are named after the villages received by their ancestors to hold free of revenue. Some eat animal food and some do not, and all are worshippers of Siva, Vishnu and their Sáktis. They appear to have come to Kumaon at about the same time the Pants came and were employed with the Bishts and Joshis by Som Chand.[3] The Muduliya Pándes of the Kanaujiya sub-division were kámdárs or courtiers. The ancestor of the Gautam Pándes came from Kángra in the time of Thohar Chand and are found in Pándekhola, Chhámi, Hát and Chhachár. They worship the Kotkangra Devi from Jwálamukhi and were favourites with Rudra Chand. The founder of the Vatsa-Bhárgava *gotra*, by name Brahma, came to Kumaun from Kángra as physician to Sonsár Chand, from whom he received Párkoti, and hence the name Párkotiya often given to this branch. Six generations after Brahma, came Mágh Pánde, who had five sons:—Kolu, whose decendants settled in Síra; Dasarath, who settled in Majhera; Devi Ballabh, who emigrated to Anúpshahr in the Bulandshahr district; Balmík, who remained in Párkoti, and Kunwar, who settled in Shor. The Bháradváj *gotra* came

[1] Gaz. XI. 551, 564. [2] *Ibid*, 496, 527, 537. [3] Gaz. XI., 501.

from the plains and call themselves Kanaujiyas. They are also called Semaltiyas or Shimaltiyas from the village of that name, which is also derived from Sresthamandala, the kitchen, their office being that of *rasoya* or purveyor and cook. They are now found in Pachára, Chhámi, Pichhauri, Mánili and Semalti and furnish priests to the temple of Triyugi in Bágeswar. The Kásyapa *gotra* claims descent from two Kanaujiya Brahmans, brothers named Sinha and Narsinha, who took service with a Khasiya Rája as purohit and *rasoya* respectively. The decendants of Sinha are found in Bairti, Bhadkot, Ganwár, Khargoli and Pípaltánda in Páli, and those of Narsinha in Pándegaon, Silauti, Barakheri, Basgaon and Pálari in the Chhakháta parganah. Bhawánipati Pánde of Bairti distinguished himself in the persecutions under Kalyán Chand.[1]

Joshís.

The Joshís, though hardly ranked as Brahmans in the plains, have attained in the hills by long prescription a claim to be considered Brahmans and intermarry with Pants, Pándes, Tiwráis and others. They are by occupation astrologers and horoscope-makers, but large numbers now chiefly affect government service or agriculture. The census of 1872 shows over 16,000 of them in the North-Western Provinces arranged amongst 'other castes' and some 4,000 under 'Brahmans,' so that their position in the plains is very ill-defined; they have several *gotras*,—Gárgya, Bháradváj, Upamanyu, Kásyapa, and Angiras. They belong to the Mádhyandiníya *sákha* and claim to be of the Kanaujiya division. Their practices are much like those of the clans with whom they intermarry. The Garggotri Joshis claim descent from Sudhanidhi, who was one of the Chautara Brahmans employed by Som Chand.[2] He is said to have been a Chaube (!) of Dundiakhera in Oudh. Their principal occupation ever since has been Government service and they accept neither gifts nor offerings of food on the occasion of ceremonies unless from relatives. They are now found in Jhijár, Shilakhola, Digoli, Kotwálgaon, Kallaun, and Oligaon. They assume to themselves the title of *diwán* The Angiras Joshis claim descent from a Pánde of Khor in Kanauj, who came to Kumaon on a pilgrimage to Badrináth and then obtained employment as an astrologer and the village of Seren in Katyúr, free of revenue. From thence his descendants spread over

[1] Gaz. XI, 584, 598. [2] Gaz. XI. 508.

the district to Galli, Sarp, Chaura, Mála, Kapkot, Gankot, Khákholi, Haneti, Khari, Palyúra, Mahinári and to Masmoli in Garhwál. They continued for a long time to perform simple priestly functions, but in the troubles which arose on the accession of Trimal Chand[1] in 1626 A.D., they succeeded in obtaining a share of state offices and have never since failed to be represented in government service. Service and agriculture are the occupations of the division to the present day. They also call themselves *diwáns*. The Joshis of the Upamanyu *gotra* claim descent from a Misra of Diptiya. They say that some of his descendants became Pándes and those that devoted themselves to astrology became Joshis. Birbhadra of this division obtained employment from the Bisht usurpers in 1726, and was the first of them to attain to any notoriety,[2] but having once tasted the sweets of power they concerned themselves in nearly all the conspiracies of the last century and suffered severely at the hands of Sib Deo[3] in 1760. They have also a strong prediliction for government service and called themselves *diwáns*. They are also known as Danya or Dhunya Joshis from their principal village. The Joshis of the Bháradváj *gotra* make their ancestor come from Jhúsi near Allahabad, who after marrying a daughter of Sivachand Tiwári settled down in Silagaon village, whence his descendants are called Silwáls. Those that live at Chiná-khán and Darhyál are named after those villages. The poorer members of the Gangoli Joshis still practise astrology, as indeed do all. There is no real evidence that they came from the plains; but if they did, they are a remarkable example of a caste hardly considered as being on the outskirts even of Brahmans in the plains having attained to such a respectable position in the hills which they still maintain by the intelligence and energy of their representatives. For the last two centuries they have been the master movers in all intrigues and have monopolised to a great extent all the valuable government appointments and possess an influence second to none and which has to be carefully adjusted by the administration.

Tiwáris.

Tiwáris or Tripathis or Tripáthis, the Tyáris of Garhwál, all claim descent from Srí Chand, a Gujráthi Brahman who came to Champáwat some four or five hundred years ago and emigrated thence to Khagmara

[1] *Ibid*, 559. [2] Gaz. XI, 583. [3] *Ibid*, 593.

on the Almora hill,[1] where his decendants were found when the Chands removed to Almora in 1563 A.D. These Tiwáris belong to the Gautama *gotra*, Kauthami *sákha*, Tripravara *pravara*, and are called Agnihotri Brahmans. They marry with the Joshi, Pant, Pánde, Lohání, Bhatt, Kanyál, Upareti, Upádhya and Thaplyál divisions, not of the same *gotra*. Their principal occupation is agriculture and they are also found as priests and teachers, and many enjoy considerable grants free of revenue, especially the family of Náráyan Tiwári, who saved the life of Báz Bahádur Chand when a child. They are chiefly Sáktas or Saivás and Vaishnavas, and some worship the one God and do not bow to idols. Certain clans such as the Bameta, Dhobyál, Pokhariya, Balutiya and other Nánagotri Brahmans claim to belong to the Tiwáris, and though in some cases they intermarry, they are not generally acknowledged. Most of them are agriculturists and till their own lands or take service.

Upádhyas.

The Upádhyas are of the Bháradváj *gotra* and claim to be descendants of Srí Ballabh of Kanauj, from whom the Lohána sept is descended. They are of the Mádhyandiníya *sákha* and Triprávara *právara* and intermarry with Tripáthis, Joshis, Pants, Pándes and Bhatts. They are orthodox in their religious observances. Several other subdivisions call themselves Upádhyas, such as the Brahmapuriya who live in Brahmapura; Myánuliyas of Myánuli; Jális of Jál village and Haribolas from the first ejaculation of the *jap* in the morning prayer.

Many stories are told of Sri Ballabh. One told me by Rudradatta Pant relates how Sri Ballabh lived on the Kalmattiya hill near Almora and could get no wood there from the people in charge of the Rája's stores, so he took out iron from the house and made a fire with it and the ashes remain and make the hill black; the fact being that there is a good deal of impure plumbago in the soil. Srí Ballabh was called in consequence of this 'Lohahomi' or 'iron-sacrificer,' now Lohání. He received Lohání, Satráli and Karurha in *jágír*. The last village had no water, and his wife had to bring it up from a distance below. One day, being wearied, she placed the water-vessel on her head instead of carrying

[1] Gaz. XI, 534, 539, 567.

it in her hand and when she met her husband he said :—"Now that you have put the water-vessel on your head its contents are of no use for my service." His wife was annoyed at this and replied :—"If that be the case you had better go and draw the water yourself." The husband replied :—"I will ask the idol, but be not surprised if you see the water coming." He then pulled up some *kusa* grass and called on his deity, when the water at once came. The woman could not restrain herself and called out '*hai, hai,*' so that nine-tenths of the supply intended disappeared, but the rest remains in Sri Ballabh's *dhára* at Karurha. His descendants are also found in Kánde and are called Kándyáls, and in Thapla, Jhárkot, Kotagaon, Bheta and Kharhi. Many of them call themselves Pándes, other than the Pándes of Pándekhola already noticed. The Lohánis like the others now chiefly occupy themselves with agriculture, service and priestly functions and are for the most part, like the other hill Brahmans, Sáktas.

Páthaks.

The Páthaks belong to the Bháradváj, Sándilya and Kásyapa *gotras;* Mádhyandiníya *sákha* and Tripravara and Panchpravara *pravaras*. The Kásyapa branch declare that their ancestor, Kamalakár, came from Sanaranpáli in Oudh and took service with the Mankoti Rájas of Gangoli.[1] The Sándilya branch call their ancestor Janárdhan, who came from Thanesar and obtained a village in *jágír* still held by them. The Páthaks marry with Pants, Pándes, Joshis, Tiwáris and Bhatts, and are now chiefly *baids*, traders, servants or cultivators. The Pályáls call themselves a branch named after Páli village.

Dugáls.

The Dugál or Durgpál Brahmans are of the Bháradváj *gotra* and Mádhyandiníya *sákha*. They say that they came from Kanauj in the time of the Katyúris and have marriage connections with Bishts, Lohánis, Pátanis, Tripáthis and others. They worship the orthodox deities, they eat animal food and follow the occupations of cultivators, service, reciting the Vedas and Puránas, and in former times were inoculators and now vaccinators. The Mathpáls or Marhwáls are of the same *sákha* and *gotra* as the preceding and of the Tripravara *pravara*. They say that two Bhatts, Madhu and Syáma, came on a pilgrimage to Badrináth from the Dakhin. They were

[1] Gaz. XI., 540.

so skilled in the mysteries of astrology as to be able to describe in a horoscope the features and sex of the unborn child of the Rája and tell all its future. When the child was born all the marks predicted were found on it, and the Rája gave the brothers the village of Ghusila in *jágír*. Some of their decendants became Joshís and others became Bhatts and settled in other villages. Badrináth at Dwára Hát was served by Budhini Brahmans, who, neglecting their duties, were expelled by Trimal Chand,[1] who also placed these Bhatts in charge of the temple, and they enjoy the endowments to the present day. From being in charge of a *math* they are called Mathwáls. They marry with Harbola, Brahmapuriya, Paneura, Pályál, Pujári, Kashmíri and Dugál Brahmans and represent the better class of Khasiya Brahmans. They practice astrology, and physic, and also take to service and husbandry. Many do not worship idols and the majority are Vaishnavas.

Bhatts.

Bhatts belong to the Bháradváj, Upamanya, Visvámitra, and Kásyapa *gotras*, the Mádhyandiníya *sákha* and Tripravara *pravara*. Some follow the Rig and others the Yajur-Veda. They say that they were formerly called Bhatta-Achárya and came here in the time of Abhaya Chand[2]; others say that they came from the Drávira country in Bhíshma[3] Chand's reign, and others again that many generations ago two brothers, Śri and Har, came to Kumaon and entered a Rája's service and from that time were named after the villages they occupied :— Bharua, Kaphuli, Dhankota, Dálakoti and Mathpál. These septs, though belonging to the same *gotra*, intermarry, but the better off take wives from Pants, Pándes and Joshis and the lower classes from Nánagotri Brahmans. They represent the Mahábrahman of the plains in funeral ceremonies and take the food and offerings up to the eleventh day.[4] Also at an eclipse when people bathe and make presents, the Bhatts receive them, also when the asterisms and planets are worshipped and the gift of a pony, buffalo or goat is made. Other Brahmans do not receive gifts of animals unless they be cows. They receive gifts of coin called *dakshina* on occasions of domestic ceremonies, such as marriage, naming a child,[5] investiture with the sacred thread, &c. They are also cultivators and make and sell sweetmeats, and the

[1] Gaz. XI., 560. [2] *Ibid*, 501. [3] *Ibid*, 539. [4] *Ibid*, 917. [5] *Ibid*, 893.

latter is their principal occupation near towns. The Pujáris or temple-priests are for the most part Khasiyas or the offspring of *soi-disant* celibates of any religious fraternity. Any Brahmans may adopt the profession, although it is apparently despised as much as it was in the days of the Mánavas. The Pujáris are in fact of the lowest class and include both Brahmans and Kshatriyas. To the latter belong the Ráwats so numerous in Garhwál and the Tapasis. Some can give no account of their lineage, knowing only that their reputed fathers have been from time immemorial temple-priests. Others ascribe their origin to Pandas or temple-priests of Kámáksha Devi in Kangra and others call themselves Bhatts, Pándes and Tiwáris. The Brahman Pujáris intermarry with the same class and the Rájput Pujáris with Rájputs. A Pujári is not too proud when necessity arises to plough or enter service, but he, as a rule, lives on the offerings made at temples and on the proceeds of the glebes attached to such buildings. He almost invariably bears a bad character.

Pujáris.

The Pandas or temple-priests of Jágeswar are called Baruas or Baroras. They say that they were Bhatts of Benares who came here in the reign of Rája Udyán Chand,[1] but the more common and accepted statement is that they are the descendants of a Dakhini Bhatt who came with the Jángamas placed here by Sankara Achárya.[2] This Bhatt married the daughter of a Khasiya Brahman, and their offspring were called Bátuks, and hence Baroras or Baruas. They marry with Amolas, Dingrias, Cháhális, Chagethas, Pályáls, and Bughánas. They cultivate the temple lands and also engage in agriculture on their own account. Only 77 were recorded under this name in the census of 1872.

Pandas of Jágeswar.

The lists give some 250 septs of Khasiya Brahmans, of whom the majority are cultivators and plough themselves. They worship sometimes Siva and Vishnu, but chiefly Bhairava, the more common forms of the Sáktis and the village deities. It would be useless to give a list of their names, which are chiefly derived from the villages in which they live. Some claim common origin with plains Brahmans: thus the Sháranis, Dobháls, Gahtyáris, Kanyánis, and Garwáls, say

Khasiya Brahmans.

[1] Gaz. XI., 527. [2] *Ibid*, 780.

that they were originally Tiwáris; the Múnwális that they were Chaubes; the Papanois that they were Upretis of Doti; the Chaunáls that they were Chaubes of Muttra who settled in Mánili in Káli Kumaon and took the title Pánde, and their present name on emigrating to Chauni; the Kutháris call themselves Pants; the Ghushuris, Daurbas, Shanwáls, and Dhunilas call themselves Pándes; the Laimdáris, Chavanráls, Phuloriyas, Oliyas, Naniyáls, Chaudasis, Dálakotis, Burhalakotis, Dhuláris, Dhurátis, Pancholis, Baneriyas, Garmolas, Walauniyas, and Birariyas allege that they are Joshis: the Banáris and Nainwals that they were Phulári Brahmans; the Kaphulis, Dhankholas, and Bhagwáls that they were Bhatts of Benares; the Muráris that they were Bhatts of Doti; the Jális, Nakhyáls, Thapaliyas and Haribols that they were Upádhyas; the Bhanotiyas that they were Gaurs, the Mashyáls that they were Kanaujiyas; the Pátasis that they were Páthaks; and the Baraniyas that they came from Benares and were astrologers to the Rája. Septs named after villages and who do not attempt to give any account of their origin are the Kholiyas, Kunwálas, Lweshális, Kaphariyas, Bithariyas, Mehalkhániyas, Nainoliyas, Meltis, Tarápiyas, Hátwáls, Pokhariyas, Chhatguliyas, besides some one hundred and fifty others. They do not know either *sákha* or *pravara* and often have little knowledge even of their *gotra*. The Kanseris worship Siva as Bibhándesewar, a name for which there are few temples. Akariyas derive their name from the fact that they were free from taxation ('*a*' privative and '*kar*,' a tax). Balarias belong to Purnagiri in Káli Kumaon. Ghughutyáls are Rájputs of Ryúni degraded from Brahmans on account of an offence committed by their ancestor. Rasyárs say they are so called because they were Brahman cooks (*rasoya*) to Rájas. The Namgis supply *purohits* to the Bhotiyas of Juhár. The Phuláras supplied flowers for worship at the Nanda devi temple. The Gairbhanariyas perform funeral ceremonies for people who die without heirs. Panerus are suppliers of drinking water. The Dobháls of Doba village are also called Jagariyas or exorcists and are authorities on the possession by devils and are called in on such occasions. The Oliyas, on the other hand, avert the evil effects of hail-storms and in Kuár wander about from village to village begging their dues, a *mána* of rice. The Chilakutis act as priests

of the village god Saim in Chaugarkha. If we turn to the census list of 1872, the last one in which the septs of Brahmans are enumerated, we find out of 108,283 that 44,122 could not give any distinguishing name, and of the remainder some 50,000 must belong to the Khasiya class, and although the caste statistics in detail are still very unsatisfactory, we must accept these figures as near the truth; that is, that nearly ninety per cent. of the Brahmans in Kumaon belong to the Khasiya race and are so classed by the people themselves. A few of the better class and better educated worship the orthodox deities alone, but the great mass serve the Bhairavas, Bhúts and Bhútinis and are to all intents and purposes as much priests of non-Brahmanical deities as their representatives further east who know not the name of Brahman. They are a simple race and not to be confounded with the hill *pujári* or temple-priest or the Náth, but at times of rejoicing assume the functions of religious directors in the very simple ceremonies deemed necessary. The Khasiyas never tried to connect themselves with the plains until of late years, when they see that such connection adds to their personal dignity, and they now prefer to be thought 'Normans' or 'Saxons' rather than 'Britons.'

Religious fraternities.

The religious fraternities represented in the hills are numerous, but the whole may be arranged under six classes: the Gosháins, Jogis, Bairágis, Udásis, Sádhs and others. The Gosháins[1] have already been noticed: 3,860 were recorded under this name in 1872 and 2,940 in 1881 in Kumaon and 2,050 in the Tarái. The Jogis of the Kánphata class have also been noticed[2] and the Jángamas from the south.[3] The Udásis are Sikhs connected with the Dehra Dún establishment or the similar one in Srínagar. The Sádhs are Hindu sectaries of the same character as the priests of the lower classes of Chamárs and others of a plains origin. They profess certain purificatory observances taught by one Birbhán some two centuries ago and are common in the upper Duáb. They do not smoke and affect great personal cleanliness and eat together frequently in a semi-religious love-feast. The Pírs are Musalmán Jogis of a semi-Hindu origin and are noticed here in connection with the Musalmán Meos of the Bhábar frontier. Kálu Shahíd is named

[1] Gaz. XI., 862, and article 'GARHWÁL.' [2] *Ibid*, 865. [3] *Ibid*, 862.

after one of them. The Jogis called Binakánphatas in the lists are also called Augars and are often found as cultivators. The Sanyásis are Saiva ascetics akin to the Gosháins and include many miscellaneous sectaries of a Saiva tendency. They may be considered as the equivalent of the Bairágis, who are Vaishnavas and an important class in these hills, serving as they do in most of the Vaishnava temples. Their rules for investiture are very similar to those of the Gosháins, and like them they have several sub-divisions, such as the Rámanandi, Rádhaballabhi, Nimanandi and Rámanúja : 233 were recorded in 1872. A stray specimen of the thoroughly human brute known as Aghori is occasionally seen feeding on filth and human carrion, drinking spirits from a skull and little removed from the jackal or hyena which he leads about. The census of 1872 record 1,726 Jogis, chiefly belonging to the Kánphata and Binakánphata sections, and the Náths who, perform domestic priestly service for many classes of Khasiyas and tend the Bhairava temples. They follow the doctrines of Gorakhnáth and his preceptor[1] Machchhendranáth, whose shrines at Gorakhpur are visited by their followers from all parts of India. One or more in each Náth household usually pierce the ear and become Kánphatas. Gosháins, Jángamás, Bairágis and Náths sometimes marry and become cultivators, retaining the religious name as a caste name. The Náths have eighteen sub-divisions:—Dharmnáth, Satyanáth, Vairágnáth, Kafláni, Daryáonáth, Mustnáth, Rawal, Gudár, Khantár, Rámnáth, Aipanthi, Niranjani, Kankái, Bhúsháí, Múndiya, Mannáthi, Páopanthi and Muskini.

Rájputs.

The Rájputs of Kumaon were returned at 181,633 in 1872 and at 216,247 souls in 1881. In the former census alone, are the septs enumerated, and those having more than one thousand were Bhotiyas, 5,738; Chandrabansis, 1,380; Khasiyas, 124,383; Kinwárs, 21,922; Káthis, 4,816; Mánuráls, 2,875; Negis, 1,230; Tamotas, 2,387; and unspecified, 7,563. Here, as in Garhwál, more than ninety per cent. of the Rájputs are Khasiyas and belong to that race as distinguished from the immigrants from the plains. Amongst those who claim descent from immigrants from the plains are (*a*) the descendants of the Surajbansi Katyúris, represented by the Rájbárs of

[1] Gaz. V., 371; XI., 808.

Askot and Jaspur, the Mánuráls and others, and (*b*) the Chandra-

Katyuris.

bansi descendants of the Chands, represented by the Ráotelas scattered all over the district. The Mánuráls[1] of Sult in Páli are so called after the village of Mánil, to which the Katyúris retired on the approach of Kírati Chand. This branch is descended from the Lakhanpur Katyúri family, and to it belong the Rájbárs of Jaspur in Chaukot; the Sain, Mánúr and Chachroti Mánuráls, those of Udepur, Bhalatgaon and Hát in Chaukot; those of Kuhergaon and those of Támádhaun. All these were reduced to the ordinary condition of cultivators by Báz Bahádur Chand. The Mánuráls belong to the Shaunkásyapa *gotra* and Panchpravara *pravara*. They intermarry with the better class of Khasiya Rájputs and are landholders or cultivators, but some are poor enough to take to daily labour for a living. The better classes are much respected and held for a long time the chief offices of *sayánas* in Páli. The pedigree of the Askot Rájbárs has been given elsewhere.[2] The present representative, Pushkar Pál, is an Honorary Magistrate and has power to try certain cases. The Rájbárs or Rájwárs of Chaukot take service as

Rájwárs.

soldiers and are descendants of the Mánurál Katyuris. The women of Rájwárs are called Bahúráuis and of the Mánuráls are known as Rájáins. Neither Rájwárs nor Mánuráls will, as a rule, eat food cooked by their women, but an exception is made in regard to the following articles:—*pálak* or spinach (*Portulaca oleracea*); *sem*, bean (*Canavalia ensiformis*); *baigan*, egg-plant (*Solanum esculentum*); cucumbers; *ghuiya*, (*Colocasia antiquorum*), and a few other vegetables. They will not touch any vegetables mixed with curds and cooked by their women; at least such is the custom of the better classes. Women eat, but men abstain from *manduwa* (*Eleusine corocana*), and neither men nor women will touch onions, garlic, yams, radishes, flesh of the wild pig, or of sheep. The Rájwárs worship their ancestors, the Katyúri Rájas and the commoner Sáktis. They intermarry with Ráotelas, Bishts, Sahus and Báryas: and the poorer with ordinary Khasiyas.

The Ráotelas are the descendants of the junior members of the

Ráotelas.

Chand family, whether legitimate or illegitimate, and as each successive Chand largely

[1] Gaz. XI., 496, 535, 568. [2] *Ibid*, 531.

increased the supply, it became necessary to give them employment or means of subsistence at a distance from Champáwat and Almora. Accordingly we find them planted all over the district. The principal villages still occupied by the descendants of the Chands are Jamrári and Ráotelakot in Dhyánirau, from the first of which came Sib Singh, the last attempt at a Native Rája.[1] This village and Parewa in Kota are esteemed the principal of all the Ráotela villages, and with Jíbi and Salmora in Shor have marriage connections with the Vaisya Rájas of Doti in Nepál. The others all intermarry with the Khasiyas and Baniyas of the hills. In Bárahmandal there are Batgal, Sula, Rainjul, Kayali, Pithoni, Chhána, Chhabísa, Ubhyári and Khári. In Chaugarkha, Bilori, Mutela and Chhauna, all occupied by Ráoteḷas. In Páli we have Tipula, Surra, Mahonir, Másí, Sábali, Phulsor, and Sirkot; in Mahryúri, Bachkande; and in Dhaniyakot, Simalkha, &c. These villages were given as fiefs to dispose of the superfluous members of the Chand families, and now, owing to the increase in numbers and intermarriages, little but the name remains. Some go in for service as soldiers, others as cultivators. They belong to the Kásyapa *gotra*, Mádhyandiníya *sákha* and Tripravara *pravara*, and are chiefly Sáktas. The men will not eat cooked rice or *manduwa* from the hands of their females. Kharkus are sprung from Ráotela Gosáins as the junior members of the Katyúri house were called, and have also had some influence in former times. One of them, Sukhrám,[3] held power in the early part of the seventeenth century in the time of Bijaya Chand.

Bishts.

The Bishts belong to the Kásyapa, Bháradváj and Upamanya *gotras* and the Mádhyandiníya *sákha* and Tripravara and Panchpravara *pravara*. The name is more correctly 'Vasisht,' meaning 'excellent,' 'respectable,' and its origin is a title rather than a caste name, though now to all intents a caste name. Ráwat, Rána and Negi have a similar meaning. Following modern custom they claim descent from a band of immigrants from Chitor, and the Upamanya *gotra* state that they came to Sábali in Garhwál from Ujjain and thence to Kumaon. They marry with Mánurál and Kálakoti Katyúris, Negis, Ráotelas, Látwáls, Kharkus, and Maharas, only avoiding

[1] Gaz. XI, 542, 553, 606. [2] *Ibid*, 605. [3] *Ibid*, 558.

the same *gotra*, and are now found in the following sub-divisions:—Bora, Son, Darmuál, Gaira, Bisáriya, Kharku, Káthi, Khaudi, Ulsi, Bhilaula, Chilwál, Dahila, Bhainsra, Chamyál, Báni, Dhaniya and Bágdwál. The Bishts have played an important part in Kumaon history. They were civil officers of Som Chand at Champáwat[1] and again with Rudra Chand.[2] The Garhwál Bishts were brought in by Báz Bahádur,[3] and we find them again with Debi Chand.[4] The Adhikáris are a sub-division of the Bishts of the Bháradváj *gotra*, and marry into the same septs and like them are principally cultivators, though some take service as soldiers. The principal occupation of all, however, is agriculture. The Adhikáris make Káli of Purnagiri their household deity. The following clans attach themselves to the Adhikáris:—Ryúniya, Neniya, Múliya and Maut.

Adhikáris.

The Boras of Borarau and the Kairas of Kairarau are by some held to be subdivisions of the Bishts. They belong to the same *gotra* and *sákha* as the Bishts, and state that their ancestor Dánukumer or Kumbhakaran lived at Kotalgarh in Káli Kumaon and joined Kírati Chand in his invasion of the Katyúri territories at the end of the fifteenth century and secured large estates in *jágír*,[5] enlarging the frontier from Devi Dhúra to the sources of the Kosi. They are still found in Dhyánirau and Káli Kumaon. Their customs are much the same as those of other Khasiya Rájputs, and they worship the Sákti of Siva and the village deities, Haru, Bhairava, Bhumiya, &c. They are cultivators and go in for service as soldiers occasionally. Around Almora they manufacture the hemp bags known as *kuthela* and make mill-stones and other utensils. But those Boras who pursue these handicrafts are despised by their land-holding fellow-tribesmen and are sometimes indeed not allowed to eat with the latter. Like all Khasiyas, they have stories regarding their origin not worth relating; and regarding their name, they explain that an ancestor, Hamíra, lent money to the Rája and in return received the title Bohara, or money-lender. They in fact may have originally represented the money-lenders of the hills, but now-a-days they are

Boras.

[1] Gaz. XI. 508. [2] *Ibid*, 550. [3] *Ibid*, 568. [4] *Ibid*, 581-4. [5] *Ibid*, 535.

essentially agriculturists and very successful ones too, and are found all over the hills as far as the Kangra valley.

The Ránas also belong to the same *gotra* and *sákha* as the Bishts and have a similar honorific appellation. They derive their origin from Chitor, and say that they were brought here by a Mathpál of Dwára Hát in the reign of Báz Bahádur Chand,[1] in the seventeenth century. They chiefly worship one god or are Sáktas and intermarry with Sahus, Chaudhris and Bishts not of the same *gotra*. They follow agriculture or service. The Mírals, Raunas and Bijipuriyas claim to be offshoots of the Ránas.

Máhras.

The Máhras or Máras or Maharas belong to the Bháradváj and Kásyapa *gotras* and the same *sákha* as the Bishts. Those of the Bháradváj *gotra* claim descent from some Mainpuri Chauháns who settled in Sirmoli in parganah Káli Kumaon. Those of the Kásyapa *gotra* call themselves Panwárs from Jhúsi, opposite to Allahabad, who came with Som Chand, who gave them the name Mára from their battle-cry '*maro!*' *maro!*' The first of the former branch who came to the hills had two sons; the descendants of one were called Máhras and of the other Phartiyáls, and from the earliest times of which we have notice these became the heads of factions (*dharras*) who have wrought much evil to Kumaon.[2] They are Sáktas, but most of them worship the village deities too. Their occupations are principally cultivators, cattle-herds and soldiers. The better classes marry with Ránas, Rájbárs, Bishts and Tarágis, and the poorer with any Khasiya Rájputs.

Negis.

Negis belong to the Kásyapa, Bháradváj, Gautam and Sándilya gotras, the Mádhyandiníya *sákha* and are of the three-invocation *pravara*. They say that they came from Dáranagar; others that they are Chauháns of Mewár. The names of their subdivisions are given in the article on Garhwál and need not be repeated here; they show a very miscellaneous origin with Musalmán names like Fateh Bahádur and Salárya, and western names like Dogra and Nagarkotiya. The word '*neg*' means 'perquisite' or due, and 'Negi,' a person entitled to such by virtue of service, civil or military. The Negis[3] are those Khasiyas of Garhwál and Kumaon who took to military

[1] Gaz. XI. 561-9. [2] See notices in Gaz. XI. 507-8, 519, 530, 559, 583, 591-4, 611, 647, 657. [3] *Ibid.* 555.

service, whether under Musalmán rulers in the plains (hence the subdivisions with Musalmán names) or under Hindu Rájas, and gradually, owing to the vicissitudes of such a life, they separated into a caste, but are all none the less Khasiyas pure and simple. In 1872, they numbered 15,880 in Garhwál, 1,230 in Kumaon, and 147 in Dehra Dún. In Kumaon, the Nagarkotiyas say that they came from the Kangra valley; the Dogras here call themselves Jammuwáls from Jammu and the Puraniyas say that they came from Puranpur; other subdivisions in Kumaon are the Haruwáls, Kanhoniyas, Jutaniyas, Marhariyas, Tilaras, Shutárs, Chaunas and Dánis. They now chiefly take to cultivation; some go into service and some into trade, whilst others devote themselves to the breeding and tending of cattle. The Dáninegis are pimps, and say that this honorable office was conferred on them by one of the former Rájas. The Negis intermarry with every *gotra* of Khasiya Rájputs except their own. The Haruwáls, who are descended from a dancing-girl attached to the shrine of Nanda devi, and the Dánis are, however, considered below the salt, and, as a rule, intermarry with only the lowest class of Rájputs and Náyaks, Sauns, Gaurs and others, who have only three threads in their *janeo*.

Padyárs.

The Padyárs of Chaugarkha belong to the Bháradváj *gotra*, Dhanushi *sákha* and Tripravara *pravara*. They call themselves Mallas from Doti, and were known under that name in Garhwál and in Kumaon as Bishts until they settled in Padyárkot in Chaugarkha, whence their present name. Elsewhere in Kumaon they are called Bishts. They were always a tribe addicted to war and their name crops up occasionally in the history of Kumaon and Garhwál.[1] Their principal occupation is now cultivation, but they will not plough themselves, and some take service and act as peons.

Panwárs.

There are a few who call themselves Panwárs or Pramarabansis and belong to the Saunaka, Kásyapa, Bhauma and Bháradváj *gotras*, the Mádhyandiniya *sákha* and Panchpravara *pravara*. They state that their ancestor, Narendra Singh, came from Ujjain in Katyúri times and entered a Rája's service: others ascribe their origin to Dáranagar,

[1] Gaz. XI. 496, 521, 554.

and their first master was Baitál Deva Katyúri and since then their descendants have founded villages and taken their names therefrom. Thus the Shálanis, Shuranis, Airáras, Basheris and Mers are all Panwárs. They are Sáktas and on festal occasions make a point of paying reverence to their weapons. Every third year there is a great service in honor of Sákti, the expenses of which are defrayed by a subscription amongst the brethren. On this occasion the *ashtbali*, or offering of eight kinds of animals, is made. The Panwárs live principally by cultivation and service. Their better classes intermarry with Rájwárs, Mánuráls, Bishts and Adhikáris, and their poorer classes with Negis, Bhojaks, Tirwas and Bajetas.

Tákulis.

Tákulis are a sept who claim connection with the Ráwats of Garhwál *(q.v.)* They belong to the Bháradwáj *gotra*, but know neither *sákha* nor *pravara*. They say that their ancestor, an officer of Rája Puran Chand,[1] was sent to collect revenue in Dánpur, and was so successful that he received a village in *jágír* on the sole condition of supplying snow and ice to the Rája's kitchen. It was, however, not till several hundred years after Puran Chand's time that the Chand Rájas approached Dánpur, so that this story is a myth. Some Tákulis wear the *janeo*, others do not; but it is usually considered respectable to wear it in public. The chief of the clan is called Búrha, and the occupation of its members is husbandry, service, tending cattle and the like. Their women weave blankets or work in the fields. They intermarry with the lower classes of Khasiya Rájputs, to whom they themselves belong, and worship the Nirriti Sáktis and the village deities Haru, Chhurmal, Kálchand, Látu, &c.

Kairas.

The Kairas or Kairbas of the Krishnásan *gotra* are like the Boras and call themselves Chauháns like the Máhras and Mers. They give their name to Kairárau, which they colonised at the same time that the Boras took possession of Borárau.[2] They are also found in Káli Kumaon and Dhyánirau. It would profit little to record the different stories of their origin, which are clearly recently invented for villages acknowledging an origin from a common ancestor, *Jítráj*, to whom they ascribe a residence as far apart as Mainpuri is from Mewar.

[1] Gaz. XI. 509. [2] Gaz. XI. 535.

There is no reason for considering the Kairas as different from other Khasiya Rájputs. Still a curious tradition exists that the Chauháns and others fought with and put down the Buddhists, and that it was the descendants of the purohits of these anti-Buddhist tribes who preached the efficacy of pilgrimages to Badrináth and Kedárnáth. The Bhandáris or Bhanáris also claim, with the same justice, to be Chauháns. They state that their ancestor was attached to Som Chand's establishment in Káli Kumaon as house-steward and hence the name. They first settled at Bájirakot near Champáwat and on the migration to Almora received a plot of land close by, on which they located the village of Bhandárgaon and also the well called Bhandári-naula. Another story is that they came from Nepál, where also this caste name is known, and this is the more probable, as in early times Káli Kumaon belonged to Doti. The Bhandáris of Nepál claim to have come from the Konkan. The Kumaon Bhandáris intermarry with all kinds of Rájputs. They worship Siva the Sáktis, Saim, Haru, Goril, Kalsain, Nágimal, Chhurmal, &c., and believe in their power to possess men and even animals. Agriculture and in a few cases service are the occupations of the Bhandáris of the present day. The Kathâyats also claim to be Chauháns of the Kásyapa gotra. Bhíma Kathâyat was a celebrated minister under the Katyúris, and his sprite is worshipped with them[1] and Nalu Kathâyat was equally known for his services to Gyán Chand,[2] and a descendant of his became chamberlain to Trimal Chand,[3] so that the clan has been of some consideration. The Tyári Rájputs claim to be descended from a Tiwári Brahman and a Rájputni. They wear three threads in their *janeo* and intermarry with Rájputs of other than their own *gotra*, the Gautam. They are chiefly found in Phaldakot. The Kharáyats are an old and warlike clan in Káli Kumaon who composed part of the Chand force in the conquest of Phaldakot and received part of the conquered territory in reward.[4] Phaldakot was then held by a tribe of Surajbansi Rájputs called Káthis,[5] whilst a Chandrabansi clan held Mánkot in Gangoli for several generations and their Ráotela descendants are still there.[6]

Bhandáris.

[1] Gaz. XI. 831. [2] *Ibid*, 522. [3] *Ibid*, 560. [4] *Ibid*, 537, [5] *Ibid*, 496, 537. [6] *Ibid*, 497, 540.

Other Rájputs.

There are some two hundred and eighty septs of Rájputs in my lists, but the great mass of these are simply Khasiyas, called after the villages inhabited by them or from some fanciful cause akin to the "canting mottoes" of our heraldry put forward as explanations of family names. They call themselves Rájputs of the Bháradváj *gotra*, but really know nothing of the meaning of the word '*gotra*,' or of the intricate rules which govern the relations of one *gotra* to another. Some wear the *janeo* of three threads, others of six threads, and others do not put it on at all.[1] Their occupations are primarily agriculture and service and sometimes trade and cooly-labour. Some keep cattle and sell milk and *ghi*. They form marriages with all Rájputs except those of their own village. They worship Siva and his Sáktis and all the village gods. They eat cooked rice only from their own caste or that of their purohit; and when necessary prepare unleavened cakes for a week's consumption at a time and consider them purified and fit for consumption when touched with a little *ghi*. They are a simple, frugal, hard-working race, troubling themselves very little about anything outside their own village, and ready always to join a feast in honour of some of the sylvan deities. Many of the septs claim some special origin. Thus the Mers say that their ancestors made leaf-platters for the Rájas, and hence their name: the Beriyas used to make baskets; the Bhojaks say that they came from Kangra; the Ponjis were potters; Sháukas are goat-butchers; Mahuts were elephant-riders; Sauns, amongst whom are members who wear the two kinds of *janeo*, and others who wear none at all, and are out of caste as regards their brethren; Báriyas are gardeners; Páiks are wrestlers; the Jainoliyas and Pilkholiyas claim to be Máhras; the Dármwáls provided pomegranates (*dárim*) for the Rája; the Muchhayas were fishermen to the Rája; the Chaláls were decorators; Thathwáls were jesters; Rájkolis were weavers; Batanniyas sifted the flour for the Rája's kitchen; Tatwánis prepared warm water;

[1] The etiquette of the sacred thread has considerable influence in questions of eating and drinking. To the Sudras, or those outside the pale of Aryan practices, the thread was not given, and if a Kshatriya took to the non-Aryan custom of making the widow of an elder brother his wife, his thread was reduced from six strands to three strands. Brahmans ordinarily have nine strands to their thread, Rájputs and Vaisyas, six. All the three castes may drink water brought or touched by a caste wearing a thread of three strands, but not by such as the Bhotiyas, Doms, Lúls, Rájis, and the like who wear none.

Dyokas, descendants of temple prostitutes, and Tapasis, descendants of professional ascetics (!) and hill women. The Sammáls call themselves Ránas from Nepál, Nauniyas claim to be Bishts and the Ghugutiyas claim to be Chauháns. The Chauriyas, Kála-jhundiyas and Harkotiyas are Bhotiyas admitted to Rájput honors: the Binsariyas are from Binsar, where Siva Bineswar is worshipped. Then there are a large number of local clans of the Dánavas of Dánpur, such as Mahta, Oranga, Jyána, &c. Some of the jingling derivations are singular: thus the Bhatrolas are as ugly as the bird of the same name: the ancestor of the Kálas was so called because he was as stupid as a 'deaf man'; the Dosádhs because they lived on the borders of Kumaon and Garhwál; Chakánas because their ancestor was a quarrelsome person, and others of a similar import. Many septs are named from the villages inhabited by them, thus the Shutárs from Shutargaon; Neriyas from Neri; Shuránis from Shuruna; Chaumwáls from Chaumu, near Almora; Daphautis from Daphauta in Gangoli; Garholias, immigrants from Garhwál; Jákhwáls from Jákh, Banolas from Banaulikot, &c.

Agarwáls.

Amongst the Baniya class, the Agarwáls from the plains have some importance in Kumaon, and although some account of them has been given elsewhere,[1] it will be interesting to record that told by an intelligent member of the community at Naini Tál. They claim descent from Rája Agrasena of Agroha in the Sirsa district of the Panjáb, who had eighteen sons, for seventeen of whom he provided wives from the daughters of the Nága Rája Vásuki and gave in addition to each a female slave: hence Bísas, offspring of the Rája's daughters, and Dásas, offspring of the slave-girls. There is an additional or half *gotra* for those who married by mistake into the wrong *gotra* and known as the Gaún *gotra*. The seventeen lawful *gotras* of the Bísa are named after the sons thus:—Sinhal, Mangal, Mítal, Táyal, Garak, Goyam, Kachchhal, Bindal, Dhálan, Jítal, Jangal, Kausal, Baisal, Nágal, Indal, Airan and Madhkal. The offspring of other than the Bísa and Dása are called Dása-Gurákha. The Agarwáls claim to have been Rájputs, but failing to oppose Shiháb-ud-dín Ghori when he destroyed Agroha, they took to trade. They neither eat fish nor flesh nor do they drink spirits, and have many

[1] Gaz. II., 395.

strict ceremonial observances. Marriage in one's own *gotra* is prohibited. Some Bísas refuse to eat or smoke with Dásas and Gurákhas, but sometimes receive a cocoanut *hukka*, but not a brass one. Some wear the sacred thread always, others only on festal occasions, and at other times shut it up in a box. A few are Saivas, but the majority are Vaishnavas or Jainas, and many worship the 'unseen god', 'Parameswar nirakár,' and do not bow to idols, considering that the 'Supreme essence, omnipotent and omniscient,' requires no temple made with hands, nor do they believe in the efficacy of pilgrimages. Most, however, reverence Kurukshetra and the Ganges. The eighteenth son of Ugrasena became a Brahman and his descendants eat with the others. They address a Brahman with the words '*Pranám*' or '*Pailagan;*' Kshatriyas with '*Rám, Rám,*' '*Jaigopál*' and '*Jai Jagadísh;*' and others with '*Salám,*' '*Bandagi.*'

Saraugis.

The Saraugis or Jainas, who are frequently spoken of as a caste, are named after the religion professed by them.[1] Their temples are separate and contain naked images of their Tirthankaras. Their great teacher was Párasnáth, and they hold within their pale people of very different origin. They are very scrupulous in their ceremonial observances with a view to avoid doing injury to the slightest living organism: some called Bháures go so far as to wear a bandage over their mouths lest anything should enter by accident. The bride passes the night before marriage in the temple of Párasnáth. As a rule, few of the ceremonies enjoined by orthodox Hindu custom are observed.

Sahus.

The Sahus of Dora belong to the Bháradváj, Vasishtha and Kásyapa *gotras* and Mádhyandiníya *sákha* and Parchpravara *pravara*. They are further divided into Thulgarhiya, Gangola, Jákháti, Kálibhuturiya and Kumáya. These all eat and drink together indiscriminately, but do not intermarry in the same *gotra*. One of the Sahus was in former times appointed Chaudhri of the Almora bazár with the duties of a *Chakráyat* or superintendent, and managed to keep the office hereditary in his family for some generations, so that his descendants still call themselves Chaudhris. The Sahus profess to be Rájputs, but they are neither Rájputs nor Vaisyas, but one of those outside castes difficult to place correctly. In Kumaon, they claim

[1] Gaz. III., 497.

descent from the Agarwáls already noticed and intermarry with Gosháins, Ráotelas, Rájbárs, Chaudhris, Mánuráls and Miráls. They first came into notice when employed by Rudra Chand in the latter half of the sixteenth century.[1] They now occupy themselves with trade and service. The Chaudhris of Dwára Hát ascribe their origin to Kangra, and they still worship the Kot-Kangra Devi of Jwálamukhi. They belong to the very miscellaneous *gotra* called Vatsa-Bhárgava, to which all stray clans belong. The name 'Chaudhri' is given by courtesy as in the plains to the heads of particular occupations amongst the Baniyas. They intermarry with the same castes as the Sahus, whom they replaced in the civil administration, and are still kanúngos in parts of Kumaon.

Chaudhris.

Khatris of Kumaon come from the plains, and are of little importance either as to numbers or influence. They belong to the Vatsa-Bhárgava *gotra*, and are divided into two great classes, the eastern and western. The latter are further subdivided into Khauna, Mehra and Kapúr, with the affix Kausal, Seth, &c. They marry members of the same division outside their own subdivision. They have no prejudices as to food, and follow the occupation of cloth-sellers, brokers, money-changers, and occasionally service and agriculture. They assume the sacred thread before twelve years of age and generally follow Hindu customs. They claim to be descendants of a Kshatriya clan who were destroyed by Párasuráma.[2] Another of the doubtful castes is the Káyath. These perhaps go further than any others in their attempts at establishing some respectable origin for themselves, for they claim descent from Chitragupta, the 'head-clerk' or 'recording-angel' of Bhagwán the Creator himself. They are of the Kásyapa *gotra* and have twelve sub-divisions:[3]—Sribástah, Máthura, Bhatnagar, Saksena, Súryadhvaj, Anvashta, Gaura, Karna, Válmiki, Aithána, Nigam and Kulasreshta. Chitragupta had two wives, the first a Surajbansi, from whom came the Máthura, Saksena, Karna and Bhatnagar subdivisions, and the second a daughter of a religious person. All these are further divided into *als*, the members of which cannot marry into their own *al* or out of their

Khatris.

Káyaths.

[1] Gaz. XI., 550. [2] *Ibid.*, IV., 282. [3] *Ibid.*, 281.

own subdivision. Here they intermarry with Nánagotri or Khasiya Rájputs. They adopt the same customs and ceremonies as the hill Brahmans and Rájputs and wear a *janeo* of six threads. Some are Saivas and some are Vaishnavas. The latter avoid fish, flesh and spirits, but the former assimilate all three with pleasure. They eat together, it only being necessary that those who adopt the less scrupulous diet should eat at a little distance from their more ascetic brethren. They affect clerkly service above all things, but of late years, owing to the spread of education and the increase of their numbers, many have had to take to cultivation. There can be little doubt that their pretensions to an origin other than outside the pale of the Brahmanical and Rájput races is ill founded, and the position they have attained is entirely due to their being the scribes of the other illiterate classes for generations. Dhúsars are another peculiar clan of whom there are both Brahman and Baniya members. The *gotras* are Bandlás, Kachchhlás, Bachhlás, &c., and are the same for the two divisions. They say that the name is derived from the Dhosi hill near Nárnaul, where their ancestor Chimand practiced austerities. Their head-quarters are still at Rewári in the Gurgaon district of the Panjáb. Chimand married the daughter of a king of Káshi (Benares), and hence Dhúsars. The practices of both Brahman and Baniya Dhúsars are the same, and in one point both differ from ordinary Hindus. They take their food before *puja* or morning prayer, whilst ordinarily all perform their *puja* first and then eat. Of late years, however, they have begun to adopt the more orthodox custom. They do not eat animal or other prohibited food, nor do they drink spirits. They worship the orthodox deities and consider Brahma, Vishnu and Siva as one god under different forms. The Brahman Dhúsar marries with his caste-fellows and the Baniya Dhúsars with Baniya Dhúsars, avoiding always the same *gotra* or a family having the same favourite deity. Their occupation is trade, service, and sometimes husbandry.

Doms.

The most important of "the other castes" of the census tables is the Doms or Dúms, the serfs of the Khasiya race in Kumaon, Garhwál, and along the hills to the westward as far as the Indus valley. In the tables of 1872, they are chiefly entered according to their occupations, only

7,331 being entered as Doms, but in the 1881 census theyare all more correctly shown as Doms and number 104,936 souls. According to popular estimation, they are divided into four grades, all equally impure and outside ordinary caste life, but furnishing certain distinctions from occupation and the like which bring up the first grade very close to the lower forms of Rájput clans and these again connect with Brahmans, so that no link in the chain of social distinction between the highest and the lowest is wanting. To the first class belong the Kolis, Tamotas, Lohárs, Ors, &c., numbering about 44,000 souls in 1872 :—

1. The Kolis of Kumaon were returned at 14,209 in 1872 and are cloth-weavers and agriculturists. They keep *gái-dangar*, or all kinds of animals, pigs and poultry.

2. The Lohárs or Lwárs, numbering 18,638 in 1872, are the blacksmiths of Kumaon, and are to be found in every part of the district either as blacksmiths, when they usually receive some service land (*khandela*), or cultivators. The Tirwas (Sikalgars), or cleaners of arms, appear to belong to this class.

3. The Tamtas or Tamotas are the Thatheras or braziers of the plains and numbered 140.

4. Orh or Ors, to whom belong both carpenters, masons and stone-cutters and similar trades, numbering about 11,000 in 1872. They include Báres or quarrymen.

5. Dháris are Khasiyas degraded for caste offences.

To the second class belong the Ruriyas, Chimyáras, Agaris, Pahris, Bhúls.

6. The Ruriyas manufacture baskets of all kinds from the *ningál* or hill bambu and matting, and are also cultivators. They include the Bánsphor and Báruris or Bairis of the census reports.

7. The Chimyáras are turners and make wooden vessels for milk and household purposes.

8. The Agaris are miners and ore-smelters and give their name to patti Agar in the Rámgarh valley. They numbered 806 souls in 1872. They marry with Ors and do not wear the *janeo* nor have they *gotras*, but of late years, as they have increased in material prosperity, they have begun to assume respectability by professing many of the purificatory observances of the better classes and are fast becoming Hinduised. They eat animal food except

pork and beef, and from any caste except the lowest class of Doms. For centuries they were the serfs of the mines, but of late years have found far more remunerative occupation in road-making, and some are now wealthy men and good cultivators.

9. Pahris are the village messengers and *factotums* and represent the *goraits* of the plains. They do all the odd jobs about villages, collect supplies and coolies, and act as aids to the head-man. They receive dues and a small rent-free field, of which they cannot dispose. Land given to village Doms for service is called *khandela* and the possessor Khandeluwa.

10. Bhúls represent the Telis or oil-pressers of the plains, but are also cultivators. They include the Báryas, and like all the rest keep pigs and poultry. They numbered 9,892 in 1872.

The third class comprises Chamárs, Mochis, Bukhuriyas, and perhaps Dhúnas and Hándkiyas.

11. Chamárs or tanners and Mochis or leather-workers have assigned to them the plains appellations designating their crafts. They call themselves Bairsuwas. They numbered 2,323 in 1872 and 6,974 in 1881.

12. Bukhuriyas are grooms chiefly employed by the Rájas and are few in number.

13. Dhúnas are cotton-cleaners and are few in number and occur only in the towns.

14. Hándkiyas are potters and represent the Kumhárs of the plains. They are few in number.

The fourth class comprises the vagrant tribes of musicians, dancers, jugglers, acrobats, &c., and include the Bádi, Hurkiya, Darzi, Dholi, Dúmjogi and Bhánd.

15. The Bádi is the village musician and acrobat. Some account of him has already been given[1] and in addition to his juggling feats, he prepares and sells flesh and wanders about begging from village to village, usually an unwelcome guest, for he often appropriates what he wants, and when not satisfied with a gift, abuses the giver. He also catches fish and birds and keeps pigs and poultry.

16. The Hurkiya plays on a sort of drum (*hurka*) and the females dance and prostitute themselves. To this class also belong the Bhánds, some of whom are Musalmáns.

[1] Gaz. XI., 834.

17. The Darzi class, also called Auji, are tailors and also cultivators and labourers. To the same subdivision belong the Dholis, who play on the *dholak*, a sort of drum, tell stories, act as drummers and exorcists of evil spirits. Some few are cultivators.

18. The Dúmjogis are beggars, and a few of late years have become cultivators.

The portion of the village site assigned to Doms is known as Domaura or Domtola, like the Chamrauti of the plains' villages.

The name Háliya was given to those employed as ploughmen, from '*hal*,' 'a plough,' and, up to 1840, he and his family could be sold with or without the land. The Chyora or domestic slave lived on his master's meals, and had to obey every order and eat the leavings of his master's enclosure. He and his family could be sold or given away without any reason assigned, though he were a Khasiya who had from poverty voluntarily become a Chyora. None of the other Doms could be sold, though each was obliged to do service for the villagers according to the trade or occupation he practised, but was entitled to receive a present in return. At other times they could dispose of their services as they pleased. The first and second classes intermarry, and the third and fourth. Sangtaráshi is the trade of stone-cutting, not a caste, and may be followed by any caste from Rájputs to Doms; stone-cutters are also called Domphors. The Doms, like all the others, claim an exalted origin and say that they are the descendants of a Brahman named Gorakhnáth and were turned out of caste for eating forbidden food. It need hardly be said that they have no pretensions to such an origin. They are simply the hereditary slaves of the Khasiyas, and are only found with them and have no connection with the scavenger Doms of the plains. Their montane and non-Brahmanical origin is sufficiently shown by the names of the deities worshipped by them: Ganganáth, Bholanáth, Masán, Khabísh, Goril, Kshetrpál, Saim, Airi, Kalbisht or Kaluwa, Chaumu, Badhán, Haru, Lâtu, Bheliya, the Katyúri Rájas, Rúniya, Bálchan, Kálchanbhausi, Chhurmal and others, all of whom are noticed elsewhere.[1] Most of these gods, goddesses and deified mortals are known under the generic name *bhút-pret* These too possess their followers and cause them to dance and leap and cry out and throw

[1] Gaz. XI., 817-833.

ashes on their heads and beat themselves with nettles. They eat greedily of uncooked rice and split pulse and altogether appear demented. Their relatives then call in the aid of the Dholi or Bádi as an exorcist and offer at the nearest shrine of the demon said to possess the patient some of the following articles:—whole pulse or rice, cooked rice and *dál*, goat's dung, *roli* red paste from the fruit of *Mallotus phillipinensis*, *sindúr* (cinnabar), white, yellow, red or blue cloth; *halwa* or *batása* (sweetmeats), *supári* (betel), spices, couries, *dugáni* (copper pice), cocoanuts, nails, iron tridents, milk or curds. Young male buffaloes and goats, fowls and pigs are also offered. The shrine (*marhi*) is usually placed on a ridge or eminence and is composed of two to four or ten to fifteen stones placed upright with a flagstone on the top. Within is a stone or a carving taken from some other temple to represent the god, and to this offerings are made on feast days. The stone is often placed in a corner within the house or on the ridge of the roof (hence called *dhuri*). At births, marriages, when building a house or entering on any speculation or returning successful from a suit in court, offerings are made to the stone as representative of the tutelary deity of the house or clan.

Doms do not wear the sacred thread or the bracelet (*rákhi*), nor do they have caste marks, or wear, as a rule, the *sikha* or top-kot; but on holidays they make a mark with *roli*, and in a rough way imitate the customs of the better classes, especially those that have made money in their contracts with Government. Their *srádddhs* when made at all are performed on the *amáwas* or last day of the *kanyagat* or dark-half of Kuár. The sister's son, younger sister's husband, or son-in-law act as Brahmans on the occasion and receive gifts as such. Doms eat the flesh of all animals and use their skins, and eat food from all classes except Bhangis, Musalmáns and Christians. There is no fixed time for marriage. When an elder brother dies the younger takes the widow to wife, whether she has had children or not: hence the proverb,—'*mal bhir udhari ber talai bhir men onchh.*' 'When the upper walls fall they come on the lower wall.' When the elder brother dies the burthen falls on the younger. The elder brother, however, cannot take to wife the widow of a deceased younger brother, and contracts a stain if even her shadow crosses his path. He transfers her to some other

of the brotherhood ; but during the lifetime of her second husband, if he or she be dissatisfied, another may take her by paying the cost of her marriage. This may be repeated several times. The prohibited degrees are only a daughter, sister, uncle, aunt, brother, and those they cannot eat or smoke with. Many bring up their daughters as prostitutes and teach them for this purpose. These are usually frequented by Musalmáns and European soldiers, and the offspring may follow the religion of their fathers.

Amongst the miscellaneous clans mention must be made of the singular Náyaks or Naiks, whose pretty village in the Rámgarh valley and settlements at Haldwáni are so cleanly and striking. They owe their origin to the wars of Bhárati Chand with Doti, when the first standing armies in Kumaon took the field, and the soldiers contracted temporary alliances with the women of the place, whose descendants became known as Khatakwálas and eventually Náyaks from the Sanskrit *náyaká*, a 'mistress.' The offspring of these professional prostitutes, if a male, is called 'Náyak,' and if a female 'Páta,' 'one who has fallen.' They soon became celebrated all over India, and in 1554 A.D. Sher Shah undertook the siege of Kalinjar to secure possession of a Pátá kept by Kirat Singh.[1] Notwithstanding their origin, the Náyaks contrive to belong to that well-abused *gotra*, the Bháradváj, and to the great mid-Hind *sákha*. They even wear the sacred thread, though with only three strands like the common Khasiya. They marry their sons into Rájput families on paying a considerable sum, but devote all their daughters to prostitution. Náyaks live by cultivation and trade, and their villages in the Bhábar are amongst the best. The son can succeed to the property of his uncle and the daughters can leave their property to any relative. If a daughter has a son, he performs her funeral ceremonies; if not, her brother performs them. They are attached to the left-hand Sákta ceremonial, and eat animal food, and are, strange to say, reported as being careful in ceremonial observances. They have a story of their own of a brother and sister going on pilgrimage to Badrináth, and the latter falling into evil ways ; but the account first given is the more probable, and has better evidence to support it.[2]

Náyaks.

[1] Gaz. XI., 529. [2] *Ibid.*, I. 453.

The census of 1872 records 145 Ahars in Kumaon and that of 1881 gives 2,393 in the Tarái. They are purely a plains tribe, who eke out their professional livelihood of robbery and cattle-tending by just enough cultivation to support themselves throughout the year.[1] Ahírs, too, in 1881 numbered 309 in Kumaon and 1,754 in the Tarái. These too are professional cattle-breeders.[2] So also are Gararíyas, who numbered 695 in Kumaon and 2,572 in the Tarái. The latter are sheep and goat tenders and weave blankets. Barhais are Chamár carpenters from the plains and numbered 309 in Kumaon and 1,458 in the Tarái; they represent the Dom carpenters of the hills. The Bhangis or sweepers numbered 1,262 in Kumaon, 292 in Garhwál, and 2,164 in the Tarái. Some call themselves sons of Valmíki, the writer of the Rámáyana, their ancestor being made a sweeper through ignorance, and others say that they were prisoners taken in the wars between Kumaon and Garhwál and made to do sweepers' work. When the Musalmáns entered India, a section became converts and were called Shaikh Mehtars, whilst the remainder continued Hindus and are called Lál Begi from a great *guru* of theirs. They still call their purohits Lál Gurus and circumambulate the fire-altar at marriages. Lál Begis are divided into Jhándes, Multanis, Bherwáls, Saudes, &c., divisions which are looked upon as *gotras* in marriage ceremonies. They have no caste prejudices and eat from all classes except low-caste Hindus. Any member becoming a Musalmán or a Christian becomes *ipso facto* out of caste. Bháts number 269 in Kumaon and 313 in the Tarái. They profess to be genealogists and minstrels, but really belong to the 'sturdy beggar' class, at least such as have not devoted themselves to agriculture. They have a bad reputation. There are about fifty Dhánaks in the Tarái, a low caste who live by fowling and thieving, akin to the Aheriyas and Baheliyas, both of whom are also represented in the tract along the foot of the hills. In 1872 there were 1,553 Baheliyas in the Kumaon Division. In 1881 there were 491 Dhobis

Ahars.

Ahírs.

Bhangis.

Bháts.

Dhánaks.

[1] Gaz. II., 397. [2] *Ibid*, IV., 557.

in Kumaon, 18 in Garhwál, and 1,262 in the Tarái. These are probably all Chamár washermen from the plains.

Dhobis.

Those settled in the hills are considered a little higher than the Doms and even intermarry with low-class Rájputs if they have taken to agriculture; but, as a rule, they form connections with their brethren from the plains who come up to take service at the different stations. The villagers wash their own clothes for themselves, and the Dhobi is not such a necessary part of the establishment as in the plains. Those that have settled in the hills follow the Khasiyas in their worship of the Sáktis and village deities.

Gújars, Játs.

The census records in 1881 give 24 Gújars in Kumaon and 1,056 in the Tarái, all are occupied in tending cattle, and have a bad reputation here as cattle-stealers. The same returns show 66 Játs in Kumaon and 1,438 in the Tarái, chiefly occupied in agriculture and cattle-grazing. Káchhis number 54 in Kumaon and 968 in the Tarái,

Kahárs.

and Kahárs number 363 in Kumaon and 8,722 in the Tarái. The former are cultivators, and the latter are both cultivators and in service. The Kahárs are divided into twelve classes, which they regard as *gotras* for marriage arrangements:—Rawánis, Ghániks, Gariyas, Kharwáras, and Náwars are litter and palki bearers, and also act as scullions and attendants: Bathmas follow the same occupations, but are also grain-parchers; Dhímars add to them the trade of fishermen; Malláhs that of boatmen; Turáhas and Bots that of greengrocers and cultivators, and Báris that of basket-makers. The Kahárs intermarry amongst themselves, avoiding, however, the same clan. They will eat food from Brahmans, Kshatriyas, and Vaisyas, and they worship the Panch Pándavas, Náráyan, the Sáktis, Guru Rám Rái, Dodiya Siddh, and Hanumán. Their hereditary trade of palanquin-bearers is usurped in these hills by various castes, including Brahmans, Rájputs, and Doms. But there are, indeed, few castes in Kumaon and Garhwál who adhere strictly to their hereditary occupations. One Brahman is a cultivator, his brother carries a palanquin, and a third brother is perhaps a professional beggar or a temple priest. All the above are castes from the plains.

Other castes.

There were eight Kalwárs in Kumaon and 566 in the Tarái in 1881, and 52 Kathíks in Kumaon and 133 in the Tarái. The former are distillers and vendors of spirits and the latter are swine-breeders and poultry keepers, found chiefly in the Káshipur and Jaspur parganahs. There were 129 Koris in Kumaon and 718 in the Tarái and 437 Kumhárs in Kumaon and 39 in Garhwál: the former are cultivators and the latter are potters, and must include many of the Dom Hándkiyas. There are a few Kurmis and Lodhs in the hills, but in the Tarái the former numbered 9,020 in 1881 and the latter 4,508. The former are pre-eminently coolies and cultivators and very few live in the hills. In the Bhábar and Tarái, the Kurmis are numerous, and are represented in the hills by the Sauns or Shauns. The Shauns will do any kind of labourers' work, but refuse to carry palanquins and similar conveyances. Their principal occupation is mining, and the reason they give for not carrying litters is that all castes will not drink water from their hands though drinking it from the hands of Kahárs. Lodhs are agricultural labourers and like the preceding a plains tribe. Chamár blacksmiths known as Lohárs are common in the Tarái (2,471). Mális or gardeners numbered 2,214 in Kumaon and 6,564 in the Tarái. They are chiefly market gardeners rather than cultivators, and belong to the plains. Náis or barbers numbered 605 in Kumaon and 1,549 in the Tarái. They have their *gotras* like the better classes and here belong to the Chánwal, Kásyapa, and Bháradváj. They eat from the hands of the three upper classes, but these will not take in return water from them. They follow their own trade and agriculture and also service. They marry into their own class avoiding their own *gotra*. There are some Pásis in Kumaon and the Bhábar. The Sonárs numbered 2,211 in Kumaon and 922 in the Tarái. They are workers in the precious metals by trade and bear a bad reputation. Some are agriculturists. Their *gotras* are the Bhauma, Kásyapa, and Bháradváj. Some call themselves Baniyas, others Rájputs. They intermarry with Khasiya Rájputs, but few of the latter, however, take daughters from them. They worship the Sáktis and village deities, and are, as a rule, considered undesirable neighbours in a village. Bhurjis or Bharbhunjas (or grain-parchers) are cultivators in Kumaon, though a few follow

their caste occupation : only nine were recorded in 1881 in Kumaon and 948 in the Tarái. Banjáras are nomadic grain-carriers and merchants, found in the Bhábar travelling with pack-bullocks and ponies and transporting grain, salt, and other commodities from one mart to another. Banjáras are both Hindus and Musalmáns. To the former belong the Lamwáns and Ládánís. The Lamwáns sometimes settle down as cultivators, but the Ládánis are carriers only. All other castes engage in the same occupation. Sánsiyas are a low class living on wild animals and wild fruits eked out by thieving. They are found in the Bhábar and Tarái, and are said to eat snakes, rats, and dogs. The Nats or gipsies are found at the foot of the hills, but very seldom within them where the Dom Hurkiyas and Bádis take their place. Tamolis or pán-sellers may be Vaisyas, or indeed, any other caste, and the term should be considered as representing a trade. Patwas are Musalmáns and Hindus, and manufacture lac armlets for men (*anant*) and women (*dor*), bead necklaces and bracelets. Any caste may engage in this occupation, which should be expunged from the list of castes.

Rájis, Lúls, Ráots.

Some account of the Rájis has already been given and they have been identified with the Rájya-Kirátas of the Puránas.[1] To what has been recorded may be added the following facts:—The name of one of the favourite objects of worship with the Rájis is Khudái, a name that has no connection with the Musalmán name for 'god.' They do not marry within three generations, and as a rule no money is given for a bride. The Askot Rájis have, however, taken to this practice, and under the pretence of contributions for worship of the family deity receive money for their daughters and the Chaugarkha Rájis accordingly look down on them. They wear the *sikha* or tuft of hair like other Hindus. In accordance with their pretensions to royal origin when they visit a Rája, they sit down close to him and call him *bláo* or younger brother and the Ráni *bwári* whilst they themselves expect to be addressed as *dajyú* or elder brother. Above Barmdeo there are several villages inhabited by Lúls,[2] and in Chhakháta a few villages are occupied by Ráots or Ráwats, who lay the same claim to royal origin, and are believed to be akin

[1] *Gaz.*, XI., 270, 359, 362, 365-68. [2] *Ibid*, 348, 589.

to the Rájis and the Ráuttas of inscriptions.[1] The Lúls have lately taken to wear the sacred thread, but the Ráots do not assume it. Now-a-days both call themselves Rájputs. The Lúls are probably connected with Lola, a country mentioned in the list given in the *Varáha-sanhita*.[2]

A few words as to the appearance of the people themselves. Raper in 1803 writes:—

"Their customs, manners, and dress display a much greater advancement towards civilization than those of their neighbours, the Garhwális, whose country, although it be considered more sacred from its being the seat of many holy places of pilgrimage, does not hold forth equal advantages for colonization. The natives of Kumaon are in their person slender, of the middling size, and their complexions are rather dark. Their dress differs little from that of the inhabitants of the lowlands, excepting that instead of a turban, they generally wear a round cotton cap. It is rather uncommon to see an inhabitant of Kumaon appear in a dress of home-spun materials of hemp or wool. All their garments are made of cotton, and this general adoption of a foreign manufacture which may be considered another proof of refinement, does not form one of the least striking differences in the appearances of the natives of this country and Garhwál. In forming an outline of the character of the Kumaonis, one would be led to represent them as a mild, inert people, free from any glaring vices, and possessed only of negative virtues. Indolence would appear to be a prominent trait in their character, if we judge of the men by the part they take in their agricultural pursuits. The labours of the field are conducted chiefly by the female sex, while the household affairs are under the superintendence of the men. This unnatural division of labour has given rise to polygamy, which is very generally resorted to by the lower classes of people; most of them taking as many wives as they can procure for the purpose of transferring to them the drudgery of the field."

Dress, houses.

With the exception of the Bhotiyas and Doms, the population is generally characterized by the same cast of countenance, lank, and with prominent features. In the northern parganahs the frame is shorter and stouter, and the complexion comparatively fair: in the southern, the stature is taller, the figure sparer and the complexion sallow. The children of both sexes are generally pretty; but as adolescence approaches, the boys become coarse-looking and hard-featured, while the girls, condemned by custom and necessity to toil and exposure to the weather, become early broken down and haggard, and as age advances, are remarkable for extreme ugliness. Women in easy circumstances, and allowed more indulgences, are represented to be invariably fair, and sometimes handsome. The dress of the peasantry is very primitive, consisting of a blanket thrown over the shoulders, fastened across the breast by a skewer of wood or metal, and girt round the waist by a kamarband of cotton or hemp. Beneath the blanket is a dhoti or breech-cloth, kept up by means of a string round the waist. The head-dress is a thick woollen cap. The legs and arms are uncovered,

[1] Gaz., XI, 517. [2] *Ibid*, 359.

except in very cold weather, when trousers of blanket-stuff are worn. Women wear a sort of bodice as well as the blanket, which they allow to hang down to the heels: to these is added a small scarf. Their noses and ears are distended with rings of metal, precious or otherwise, according to their means; and the silver bracelets and anklets which they generally wear, contrast singularly with the poverty of their attire. Those in the neighbourhood of the plains assimilate their dress to that of the population there. Traill thus sums up their character:—"Honest, sober, frugal, patient under fatigues and privations, hospitable, good-humoured, open, and usually sincere in their address, they are at the same time extremely indolent, fickle, easily led away by the counsel of others, hasty in pursuing the dictates of passion, even to their own immediate detriment, envious of each other, jealous of strangers, capable of equivocation and petty cunning, and lastly, grossly superstitious. To personal courage the lower order makes no pretensions. The high Rájput families, who are for the most part descended from western adventurers, are in no way deficient in the inherent spirit of their race. Conjugal affection has scarcely any existence in the hills: wives are universally considered and treated as part of the live-stock; and little or no importance is attached to the breach of female chastity, excepting when the prejudices of caste may thereby be compromised. To their children, however, they evince strong affection." "Of the honesty of the hill people too much praise cannot be given. Property of every kind is left exposed in every way without fear and without loss." It would not be easy to reconcile all the parts of this description; but it is gratifying to find the reputation of the people for some of the good qualities ascribed to them, supported by the testimony of Heber, who writes:—"Of the inhabitants everbody seems to speak well. They are, indeed, dirty to a degree which I never saw among the Hindus, and extremely averse to any improvement in their rude and inefficient agriculture; but they are honest, peaceable, and cheerful, and in the species of labour to which they are accustomed extremely diligent."

Habitation.

The villages or *gons* in Kumaon present a neat appearance from a distance, but on closer examination this impression is entirely effaced by the filthy accumulations in and around the dwelling house. The house (*ghar* or *kúro*) consists of the lower story (*goth*) used for housing the cattle with a slight verandah (*gothmal*). The first floor (*majhyálo*) has a verandah in front, which if open is called *chhájo*, and if closed is known as *chák*. This runs along the whole front of the house, and as this is generally long, the verandah often runs to upwards of sixty feet. Sometimes there is a third story called *pand*. The back part of the house is usually shut up entirely. The walls are built of stone and the roof (*pákho*) of slates. The door is called *kholi;* a room, *khand;* the front or reception room, *tiwari;* courtyard, *angan* or *chauk;* a large courtyard *utángan* or

patángan; the space behind the house *kuriya*; a row of houses together, *bákhal* or *kholo*; houses in a separate cluster *tánd*, and wooden raised place for sitting on in the evening *chaunro*. The cattle-path is called *gauno*, and that for the people *báto*. The road through the village is commonly a stone causeway about two feet broad, and three or four high running through the centre of the street, from which there are small raised paths leading to the upper apartments of the different houses and forming with the central parapet a kind of compound or enclosure for the cattle. So little attention is paid to neatness within these enclosures, that they may be considered merely as nurseries for manure. This disregard to cleanliness is undoubtedly one of the chief causes of the fevers which are very prevalent during the hot months. The inside of the habitations keep pace with the exterior and appear equally ill-arranged for health or convenience, the apartments being very low, dark, and confined.

Some of the phrases used in connection with the land may be noticed here. *tálán* or lowland usually irrigable, *sera*, *síra*, *kulon* or *pánikhet*, irrigated land; *upa-ráon*, upland usually not irrigable: *sím* or *gánjo* or *semar*, land not requiring artificial irrigation, swampy; *chor*, *tappar*, good flat land; *tít*, *ukkar*, unproductive land not reclaimable; *sár*, *tok*, *táno*, a sheet or plain of cultivation, including many fields and usually bearing a separate name; *báro*, a garden; *guro*, *khet*, *kanulo*, *púchuro*, *hango*, names for fields according to situation; *gaír*, cultivation along the sides of a valley; *kumuno*, cultivated land; *banjo*, fallow or waste land; *relo*, cultivation in very steep places; *sír* land kept in cultivation by the proprietor himself; *tailo*, sunny land; *selo*, shady land; *malla*, upper; *talla*, lower; *pugar*, *bír* or *bíra*, *paira*, terrace walls in fields; *ijhar*, *mán* or *kil*, forest land taken up for temporary cultivation; *thúla*, big; *náno*, little; *utár*, *waldra*, a descent; *charhái*, *wakálu*, an ascent; *ghat*, *panchaki*, a water-mill; *okal*, *okriála*, hole in the threshing-floor for husking grain; *khor*, a sheep-pen in the hills, and *goth*, *kharak*, *gwár*, place for tying up cattle. Many of these will be found, as affixes to the names of villages or even as names themselves, and will serve to explain the nomenclature.

Fiscal history under the Chands.

It is a very convenient form of censure here as in the west to compare the present with 'the good old times,' but all comparisons result in the one conclusion, that now people possess immeasurably greater liberty, not always well used, and a security for life and property that was formerly absolutely unknown, no matter who the person was or who the rulers were. Under the Chands the cultivating community comprised three great classes:—*thátwáns* or proprietors, including grantees of various kinds; *kháyakars* or cultivators, *i.e.*, those who eat (*khána*)

the produce of the land on the condition of paying the land-tax (*kar*), including *sirtháns* who paid in cash and the *kainis*, including the *chyorás* or household slaves. *Thátwán* or *thátui* was the name given to the proprietor of a *thát* or parcel of land assessed with revenue. The *thátwán* paid direct to the Rája's treasury his revenue, which consisted of dues of thirty-six different kinds, of which the following were the principal :—

1. *Jyúliya* or *Jhúliya*, assessed on the *jhúla*.
2. *Sirthi*, assessed in coin.
3. *Báikar*, grain in kind.
4. *Rákhiya*, dues on the occasion of wearing the bracelet of silken thread put on at the ceremony known as *rakshábandi* (Gaz. XI., 886).
5. *Kút*, grain in kind by appraisement.
6. *Bhet*, extraordinary dues on visits by the Rája or near member of his family.
7. *Ghoryálo*, for the Rája's horses.
8. *Kukuryálo*, for the Rája's dogs.
9. *Bázdár*, coin to the keeper of the banks.
10. *Bájaniya*, coin to the musicians and dancers.
11. *Bukhuriya*, presents to the grooms.
12. *Mánga*, present to Rája, on his requiring it.
13, 14. *Sahu* and *Ratgalli*, presents to the keepers of the records and scribes of those families.
15. *Kheni-Kapíni*, personal service as coolies.
16. *Katak* or *Khatak* service with the army and providing for its wants.
17. *Syúk*, offering to the Rájas on certain occasions.
18. *Kamínáchári Sayánachári*, &c., dues to Kamins and other officials.
19. *Gharka-negi*, &c., a local patwári or village accountant.

Rights and duties.

A *thátwán* could not voluntarily relinquish his *thát*, and was responsible for the land-revenue and dues no matter who actually tilled the soil. The regulations for collecting the revenue were extremely stringent, and no remission or suspension was ever granted until the property and persons of all within the *thát* had been sold. A *thátwán* could make over portions of the land to others for cultivation. These cultivators became his *kháyakars* and paid *jhúliya* or *sirthi*, but none of the other dues to the Rája, his servants or the village officers. The Khasiyas were mostly *thátwáns*, the better classes calling themselves *gharkas* : but there were *kainis* and *chyoras* also amongst them. A *thátwán* might become a *kaini* where the Rája gave the *thát* in (1) *sankalp* to a Brahman, or (2) in *rot* to the heirs of a person who fell in battle, or (3) in *jágír* to courtiers and others

which he had the power to do as the real owner of the soil. In such cases the *thátwán* became the *kaini* or vassal of the grantee. If the *thátwán* refused his new position he could relinquish his status by bringing a clod of earth or a stone from his *thát* and a pice, and placing them before the Rája in *darbár* request to be relieved of his duties. No *thátwán* could be forcibly made a *kaini*, but as a rule he accepted the new state of things and sank from the grade of *gharka*, and could no longer have rights of eating, drinking, or intermarrying with them, but if he abandoned the land altogether, he remained a *gharka*. *Thátwán* was pre-eminently the title of Khasiya proprietors: others holding in *rot* or *jágír* called themselves by these names, though in cases of dispute referring to their grants as their '*thát*.' *Kháyakars* being cultivators within a *thát* were not affected by changes in the tenure. They might be of any class, proprietors of other villages or even Brahmans, though, as a matter of fact, owing to the practice prevailing amongst most of these latter of not putting their hand to the plough, it was not customary for them to become *thátwáns* nor did the Rájas often give them lands, but instead an assignment of the State revenue. Brahmans seldom became *kháyakars* or *sirtháns*.

Thátwáns and *kháyakars*.

The *kháyakar's* tenure was under the Chands purely a personal one. He could be ousted at any time and could give up his land at any time; nor did his heirs succeed without the consent of the *thátwán*. Rents were paid in kind and were the subject of individual contract, and the *kháyakar* was in addition required at times to give personal service on certain occasions. His rent was fixed as a rule at a part or all of the land-tax due from the *thát* to the State according to the proportion of his holding to the whole arable area. There was no written contract, and if cultivators were scarce, the *thátwán* had to give very favourable terms. If there was no lack of applicants, the rate was decided by competition and naturally varied with the circumstances of each estate. There was no limit as to time and a *kháyakar* could only claim the value of the seed sown as his right on being ousted, but in practice there were few disputes. The land-tax was fixed on the *thát* without reference to the number of tenants, but in cases of difficulty the *thátwán* made over his land to a *kháyakar* rather than to a *sirthán*, who paid, on the whole, propor-

tionately less. As already explained, the *sirthán* paid in cash only, and was not subject to any demand from the State. The *kaini* had many menial duties to perform, and amongst them he had to carry the litter or *dandi* of his overlord, wash his clothes and cooking pots, accompany him in time of war as a servant, give wood for the funeral pyres in the family and assist in the funeral ceremonies, shave his head and face on the death of his overlord or any near member of his family, or on the death of the Rája, and generally to obey every order. The only difference between the *kaini* and the *chyora* or household slave was that the former did not eat his master's leavings, but the latter did. It was often customary to excuse the *kaini* from performing the more menial duties, but if he refused to perform them without obtaining permission, he could be punished by the Rája and expelled from his lands. The *thátwán* could sell the *kaini* with the land and was absolutely attached to it, but could not be sold without it, but the *chyora* could be sold at any time. A *kaini* could sell his rights and duties to a proper substitute, and the grantee would not object, and his heirs succeeded to his lands, but on failure of heirs, the lands reverted to the grantee.

Sayánas, búrhas, thokdárs.

Between the actual cultivators whom we have just described were in some places a number of middlemen who, under different names, possessed rights in the land. In Páli they were known as *Sayánas* and were four in number, two Mánurâls, one Bisht, and one Bangára. In Káli Kumaon, Juhár and Dárma they were called *Búrhas*, and in Káli Kumaon were also four in number of the Tarágí, Kharku, Bora and Chaudhri clans; but these being divided into two factions or *dharras*, the Máhra and Phartiyál the *Búrhas* were doubled, allowing one for each faction in each division. Patti Chárál owes its name to the *áls* of the four *Búrhas*, thus Tarágí-ke-ál, &c. In Juhár and Dárma there was only one person in each entitled to the name though many now assume it. *Thokdár* is the name given elsewhere to these middlemen. To all these titles were formerly attached both duties and rights. *Kamíns* were an inferior grade who had only duties to perform: *Sayánas*, *Búrhas*, and *Thokdárs* possessed rights in the land as well and could sell their villages and exact certain fees and dues. The Páli *Sayánas* of the Mánurál clan were inducted with beat of drum (*nakkára*) and standard

flying (*nishán*); a right conferred on the *Búrhas* of Juhár and Dárma by Báz Bahádur Chand. The *Sayána* had a right in the *thát* of his villages and in acknowledgment of it received food for himself and his followers when visiting the village: every second year one rupee from each house; dues at festivals and aids for his household ceremonies; presents of grain from the cultivators at each harvest and a due called *dala*, equivalent to the *mánga* of the Rája, being a special contribution on extraordinary occasions. When the grant was made, the Rája fixed the contributions that the *Sayána* was entitled to demand. The people within his circle were also bound to give him personal service. *Sayánas* were obliged to pay the usual taxes imposed upon *thátwáns* and even grantees in *rot* or *jágír* were seldom excused all dues. In return, he could dispose of any of the villages in his circle and relieve himself proportionately of the State burden, but with the consent of the Rája as to the amount and the substitute.

Búrhas.

The *Búrhas* of Káli Kumaon differed in no way from the *Sayánas* of Páli, except that they very frequently formed a consultative body in state affairs, especially when the succession to the *ráj* was doubtful, consequently they have all along played a very important part in Kumaon history. The *Búrhas* of Juhár and Dárma bore merely honorary titles, and never possessed any great authority. The *Thokdár* was a step below these. He received the same sort of dues, but to a less extent, and his title was of less significance and more of a fiscal nature. He had no right to drums or standards at his installation, and was not called on for advice in matters of State. These three classes of fiscal officers were bound to assist the military and civil officers in their administration, but had no special duties such as were subsequently assigned to them. The *Kamín* was altogether of an inferior grade, and what influence he possessed was due to his office and its emoluments. He had no *thát* right in the villages of his circle nor could he sell or mortgage them or his rights. He supplied *bardáish*, that is, coolies and supplies for the State service, and paid dues to the *Sayána* or *Búrha* above him, but not to the *Thokdár*, and indeed the latter seldom existed in places where there were *Kamíns*.

Kamíns.

Under all in each village was the *padhán*, who had very much the same duties as at present, and the same emoluments. He collected the revenue, attended to the police duties of his village, represented the coparcenary body whenever necessary, and was in charge of all *sáyar* or miscellaneous produce within the village boundaries. The office was usually hereditary. Under him was the *kotál* as his deputy, who was usually chosen by and removeable by the *padhán*. The *kotáls* are still found in many villages. In Páli especially, there was still another official, usually a Dom, called a *pahri*, whose duty corresponded with that of the *goraít* of the plains, general village messenger, collector of supplies, watchman and general servant. He was remunerated by a grant of grain at each harvest from each *máo* or family and at festivals. He also exists still in many villages, though dropped out of the arrangements sanctioned by our rules. The preceding description gives, I believe, a faithful account of the fiscal arrangements under the Chands and was communicated to me by Rudradatta Pant, a nephew of Harak Deb Joshi, whose name fills the pages of Kumaon history during the last quarter of the past century and up to 1815. I have compared it with other records, and especially with all the reports of Mr. Traill, and have found nothing unworthy of credence. On the contrary, the other notes of Rudradatta when tested by contemporary records have always been found remarkably accurate and trustworthy, and I can therefore thoroughly put this account forward as an unique record of the civil administration of a Hill state untainted almost by any foreign admixture, for until the Gorkháli conquest and subsequently the British occupation Kumaon was always independent.

Padháns.

Kotáls, Pahris.

One principle that clearly guided the old fiscal administration which has never been lost sight of and which has been reiterated by both Gorkháli and British settlement officers is that then, as is now the case in Nepál, the property in the soil is vested in the State.[1] The revenue of the Rájas of both Kumaun and Garhwál was not as we have seen wholly confined to a land-tax, but included dues of various kinds and in addition taxes on commerce, mines, the administration of

Mr. Traill on Chand administration.

[1] To Govt., 22nd January, 1817.

justice, law proceedings and forest produce. An impost was laid on *ghi* or clarified butter payable by the owners of the cattle at a rate fixed for each animal, and amounting to four annas on each female buffalo.

"The weavers throughout the province," writes Mr. Traill, "were also subject to a separate tax. The assessment of land was, generally speaking, light, the government demand on agriculture being rated at only one-third of the gross produce in ordinary lands, and at one-half in the very fertile. In mines, the royal share amounted to one-half. The collection was made in two forms, being imposed one year on the land, and a second year levied by a capitation tax on the inhabitants. As these, however, consisted solely of persons connected with agriculture, the source from which the payments were made was necessarily the same, though the mode and detail of cess varied." The *gái-charái* or grazing tax had from time immemorial formed a portion of the public assets in the assessments made in the tract immediately below the hills. In one of Mr. Traill's many valuable reports[1] he writes:—"The agricultural assessment or *sirthi* (cash payment), as originally fixed, was extremely light, and its rate and amount would appear to have been very rarely revised. To supply the increasing expenditure of the State numerous other taxes were successively imposed on the landholder. Of these the principal were a capitation-tax and a house-tax, and the whole were summed up under the designation of *chhatis-rukm* and *batis-kalam* or the thirty-six items of revenue and the thirty-two items of ministerial fees. These numbers appear to have been used arbitrarily as including the regular and contingent cesses, the total to which the landholder was liable never actually amounted to sixty-eight; but they were sufficiently onerous to leave him little beyond the means of subsistence. As the public demand was not regulated on any consideration of the produce, the relative proportions which they bore to each other can only be estimated by the analogy of the rates paid to the free holders by the *khâyakars* and *kaiais*. These varied in different parganahs from one-third to two-fifths of the gross produce. Rents were commonly paid in kind (*kût*) at an invariable rate fixed on the land and payable in some specified description of grain without reference to the annual fluctuations in the amount and nature of the produce."

"Rice, as the staple crop, formed the principal item in these engagements. The maximum parganah rates of *kût* may be stated at twelve *pirâis* of 4½ maunds of wheat per *bisi* (forty yards less than an acre); the average crop per *bisi* in medium land cannot be estimated higher than twenty-six maunds of rice and ten maunds of wheat per *bisi*. These tenants were, at the same time, subject to other demands; the *khâyakar* was called upon for *bhet*, fees and other dues; whilst the *kaint* was subject to personal service in cultivating the overlord's *sir* or home-farm and in carrying his baggage when required. In some instances where no specific *kût* had been fixed, the landlord took one-third of the actual produce, exclusive of the petty items of *bhet*, dues, &c. In *pahikâsht* lands, the rates of rent were extremely variable; in the most favourable lands lying near a populous village, the rent was somewhat lower than that paid by resident tenants; whilst for lands unfavourable in soil or situation a mere quit rent or *sirthi* was paid. Under

[1] To Govt., 2nd January, 1829.

the Gorkhâli government, a complete revision of the old revenue system took place; the cess on agriculture was considerably augmented and most of the extra demands contained in the *chatis-rukm* and *batis-kalam* ceased. *Maukar* (capitation tax), *tandkar* (loom-tax); *mijhâri* (tax on Doms); *ghîkar* (tax on *ghi*); *salâmi* (presents to officials), and *soniya-phâgan* (offerings on festivals) were alone retained and the only ministerial fees which remained in force were those to the kánúngo, kamín, and padhán. The cess on agriculture was moderate, being imposed on the area at a determined rate which was equalized in different districts according to the scale of measurement in force: all other assets and means of the landholder were reached by the extra cesses abovementioned, so that the gross demand became an income-tax on all classes connected with the land. By the injudicious mode of management which was then introduced (that of military assignments) the resources of the country were rapidly deteriorated, agricultural produce diminished, prices were arbitrarily depressed, and a year of excessive drought supervening, the disposable capital of the agricultural classes was dissipated."

Gorkhalis.

The Gorkhâli revenue-roll for 1812 A.D. showed on account of land revenue Rs. 85,525: for *salâmi* or *nazarána*, Rs. 2,743; *ghîkar*, Rs. 2,252; *mijhâri* or tax on Doms as curriers, Rs. 621; Rs. 50,741 *tandkar* or tax on looms; Rs. 1,360, *Soniya Phâgan* or *bhet* on festivals; Rs. 7,500, customs and transit duties; Rs. 2,400 mines and mint duties; Rs. 3,200 *kuersál* or *kath* (catechu); Rs. 1,200 *kath-báns* (timber and bambus); Rs. 162 other customs; and Rs. 2,500 *asmáni-farmáni* or fines and forfeitures total Rs. 1,64,426. The transit duties were farmed out under one lease, and at the British occupation it was resolved that until more accurate information was obtainable, the former practice should continue, with the exception of the duty on the sale of children, which was at once abolished. From May, 1815 to May, 1816, these miscellaneous items yielded a net revenue of Rs. 7,234 and for the following year, when they were let out in farm Rs. 8,489 and for 1817-18, Rs. 9,867. Owing to the vexatious nature of the imports and the check thus caused on trade, Mr. Traill recommended their abolition. A correspondence then arose between the Board and Commissioner, and it was considered that though licensed and allowed by competent authority, these transit duties on merchandise partook more of the nature of arbitrary exactions than of regular customs duties, and their abolition on the expiration of the existing lease was eventually sanctioned by Government.[1]

[1] The following references will give the entire correspondence:—To Government, dated 24th May, 1815; from Government, dated 2nd June, 1815; to Government, dated 23rd June, 1816; from Government, dated 23rd July, 1816; from Board, dated 10th June, 1817; from Board, dated 10th February, 1818; to Board, dated 21st February, 1818; from Board, dated 22nd May, 1818; from Board, dated 10th July, 1818.

The only duties retained were those on forest produce, which partook more of the nature of a land-tax on uncultivated land, and these formed the nucleus of what subsequently became the revenue of the Forest Department of which an account has been given[1] elsewhere.

As the records of the Gorkhâli period yielded little or no information of the rents of lands and villages, rent-free to individuals in tenure of service, or assigned to temples, it is impossible to form any correct estimate of the income derived from the country by the Government or their representatives. Judging, however, from the very superior degree of population and cultivation which then existed, the sovereign's share of the gross produce of the country may be computed at about four lakhs of *kachcha* rupees for Kumaon, and two for the district of Garhwâl. The extraordinary revenue was levied in the form of a general house-tax, and, of course, varied in its amount according to the nature of the emergency for which it was imposed. To account for the subsequent deterioration in the resources of the country, a short view of the Gorkhâli revenue administration is necessary. On the successive conquests of Kumaon and Garhwâl by that power the existing system was continued, and the country including all the villages hitherto reserved for the support of the court and their attendants, was parcelled out in separate assignments (*jaedâd*) to the invading army, and as this was kept up on a large scale, with the view to further conquests, the value of each assignment was estimated at an excessive rate to meet the expenditure. The consequences may be easily surmised: the troops considering themselves merely as temporary holders, and looking forward to a change of assignment on every new acquisition, felt no interest in the condition or welfare of the landholders made over to them, nor were they allowed any indemnification for balances. The emigration, in the first instance, of a large portion of the principal landholders, tended still further to increase the evil. The villages were everywhere assessed rather on a consideration of the supposed means of the inhabitants than on any computation of their agricultural produce. Balances soon ensued, to liquidate which the families and effects of the defaulter were seized and sold, a ready market for the former presenting itself in the neighbouring towns of Rohilkhand.

Administration.

The consequent depopulation was rapid and excessive, as is fully proved in the numerous waste villages deserted at that period, and in the incomplete state of cultivation which prevailed generally in the villages still inhabited. After the conquests of the Nepál government had been further extended, and the subjection in this quarter fully established, measures were adopted to remedy these disorders. A commission was accordingly deputed immediately from Kathmándu, for the purpose of fixing the revenues at an equitable rate. The settlement was formed on an actual inspection of the resources of each village, but as the estimated profits of the trade carried on by the residents were taken into consideration, the assessment must be viewed rather as a tax founded on the number of inhabitants than on the extent

Commission from Nepál.

[1] Gaz., X., 845.

of cultivation. On the completion of this survey, a detailed account of each parganah, showing the numbers, names, size, and extent of the villages, was submitted for the approbation of the court of Nepál. From thence a copy, under the seal of State, was issued to the *kamins*, or heads of local circles, as a standard of the revenue demandable from their respective circles, corresponding instructions being issued to the officers holding assignments. The demand thus authorised, generally speaking, was by no means excessive or unreasonable, but the absence of a controlling power on the spot rendered the arrangement almost nugatory, and the Military chiefs were enabled to evade it by the power vested in them, of imposing fines, at their own discretion, in the administration of the interior police. In Garhwál, where the conquest had been more recent, these exactions were more heavy: the revenue imposed soon exceeded what the country could yield, the deficiency annually increasing from the attempt to enforce the full demand, so that the condition of this district at the conquest by the British was much more deteriorated than that of Kumaon and the progress of improvement was consequently much slower and more incomplete.[1]

We shall now take up the settlement in Kumaun and Garhwál separately and endeavour, as far as possible, to give the substance of the numerous reports and letters of Mr. Traill for the earlier periods and those of Mr. Batten for the settlement of 1843. There is little to be gathered beyond the statistics from the report on the current settlement in Kumaon, excellent and far surpassing all others in thoroughness and laborious accuracy though it be.

First settlement.

Taking the area as it stands after some interchanges of villages with Garhwál, the land-tax[2] of the first settlement of Kumaon yielded Rs. 85,191. This was effected by the Hon'ble Mr. Gardener in 1872 *sanvat* (1815-16 A.D.). The assessment was based on the actual receipts of the Gorkhális during the preceding year, as, owing to the destruction of records and the ravages caused by the war, it was impossible to obtain any more reliable data on which a calculation could be made. In Káli Kumaon and Bárahmandal it was necessary to make some reductions as many villages had been destroyed by the enemy. One-fourth, too, was deducted to enable the people to pay in the coin current in the plains instead of the Gorkháli *timáshas* and rupees which were hitherto current. The settlement of Bhot also was fixed in the Government currency instead of partly in Gorkháli currency and partly in kind, as had hitherto been the practice, and with a light assessment and the introduc-

[1] Traill to Government, dated 22nd January, 1817. [2] To Government, dated 22nd March, 1816, which gives the assessment as Rs. 85,746, but it is better to take the district area as it now stands.

tion of security to life and property it was believed that the revenues would be realised without difficulty, and a progressive increase might be hoped for in future years. So far had matters progressed that it was resolved to place the administration of the province under the general superintendence of the Board of Commissioners, the representative of the present Board of Revenue. At the same time, the authorities did not contemplate the introduction into Kumaon of the regulations generally as a part of the proposed arrangement, but "it appeared expedient that the Commissioner should, in his capacity of Collector of the Revenue, be placed under the control of the Board of Commissioners, and that their relative powers and duties should be defined by the general principles established throughout the provinces." In practice there was little interference with the work of a man so peculiarly fitted for the charge which he undertook as Mr. Traill. The second settlement was formed by him in 1817 at Rs. 89,537 with the *padháns* or headmen for their respective villages[1]. This mode of collection was new to the people and as the power and responsibilities of the *padháns* remained to be ascertained, the arrangement was only partially introduced and the leases were restricted to one year. Mr. Traill thus describes the principles on which this settlement was formed:—"The rights of no individual have been compromised, as the *kamíns* continue to receive their established dues from the villages included in their sub-divisions and are the channels of communication in matters of police between the government and those villages. In a few villages, owing to their smallness or the difficulty of communication, the *kamíns* were still admitted to engagements. The first settlement was formed in whole parganahs or in pattis, hence, on the formation of a village settlement, it became necessary to fix the land revenue according to the actual produce, and as this, from the nature of the country, could not be ascertained by actual measurement or survey, and as the estimates of the kánúngos exhibited only the gross estimated assets of each patti, recourse was in consequence had to the village landholders themselves. The gross demand on account of each patti being

Second settlement.

[1] The records of the Gorkháli regular settlement in 1864 San., which was fixed in general on actual observation of each village, were also referred to.

communicated to the whole body, they were directed to fix the detailed assessment themselves—a task which they executed with much equity and fairness as no complaints were received."

Third settlement: *first triennial.*

The third settlement was effected in 1818 and was for three years and gave a land-revenue[1] of Rs 98,991 which Mr. Traill still considered extremely light, and short of what Government on a strict calculation of the assets might consider itself entitled to demand. The settlement, except in the Bhotiya parganahs, was everywhere made with the village proprietors, and the number of individual engagements was considerably increased. The mode of settlement was the same[2], the estimate of the proportional share of the cultivation of each village to the whole patti being completed, the statement was signed by each village representative, and the gross increase demandable from the patti was then added proportionately to the previous assessment of each village, and engagements were interchanged with the landholders themselves. As the pattis were very small, and the interference of native officers was not allowed on these occasions, this mode of assessment was probably as fair and equitable as any that could have been made under the circumstances. The increase demanded from each village was too small to render it an object to the village proprietors to protract the settlement by making unfounded objections, and thus to escape with a lighter revenue and at the same time it was difficult for any individual present at the general arbitration to conceal his assets and pass a portion of the burden on to other villages. The general fairness of the arrangement was shown by the fact that the entire revenue of the first two settlements in which it had been tried was realised without having had recourse, in any instance, to any form of duress.

Fourth settlement: second triennial.

At the close of the first triennial settlement, the smaller landholders, in general, were found unprepared to engage for a long term of years owing to the wandering disposition of their tenantry who continually changed from one village to another without any adequate reason. This habit owed its origin to the oppressive system of the late government, and had ample field for its exercise in the great excess

[1] To Government, dated 21st June, 1818. [2] *Ibid*, dated 15th February, 1820.

of arable land when compared with the population, and so great was its influence on the character of the cultivating population, that Mr. Traill recommended that the next settlement should also be for only three years.[1] His proposal received the sanction of the Board. The same causes led to the number of inhabitants in a village being considered of more importance in calculating the assets than the area of arable land, and also led to the almost universal practice of a portion of the cultivation being carried on by persons residing in other villages and who were termed *pahi-kásht* cultivators. The culturable area entered in the village accounts of the kánúngos appears to have been a mere arbitrary estimate of the capabilities of the village handed down through successive governments, and in few instances bore any relation to the actual state of the village. Indeed, the mere fact that the record of area in use throughout the province was based on the quantity of seed which could be sown would lead one to suppose that no actual survey of even the cultivated area had ever taken place. No estimate even of the area of the waste and forest land was ever made by the former governments nor was it taken into account by them in calculating the assets of a village. At the Gorkháli settlement, an attempt was made to establish one common standard of measure for the whole of Kumaon, but when this was applied to the actual measurement of the terraced cultivated land, the labour and expense involved was found so great that the whole scheme finally terminated in a loose method of approximating the areas to the given standard by estimation. As no fixed principle seemed to have been adopted in the execution of this measure, the Gorkháli records had also to be abandoned, and finally the *bísi* was taken as the standard of land measurement. The *bísi*, as its name implies, should contain the area which requires twenty *nálís* of seed to sow it but as this area varied in each parganah, it was at length taken to be equivalent to forty yards less than the British acre, and this is now the standard measure in Kumaon. It was found impossible owing to the number of sharers to prepare a record-of-rights for every village, but the proprietary body was protected as far as

[1] To Board, dated 4th January, 1820; from Board, dated 21st January, 1820; to Board, dated 15th February, 1820; from Board, dated 3rd March, 1820.

possible by placing them entirely under their own *pradháns* and by forbidding the *kamíns* to interfere in the collection of the revenues of any village not their own property. The parganah records, however, gave the name and estimated extent of every parcel of land of every village from which it was possible to identify its boundaries and eventually form a record-of-right. Mr. Traill considered the rate of the government assessment to be yet far behind the scale which should require a minute classification of the culturable area and its capabilities, such as had now been prescribed for the settlements in the plains by Regulation VII of 1821. Taking the average of the entire revenue, it did not amount to one-third of the gross produce whilst the custom of the hills gave the sovereign one half. At this settlement, in 1820, the total revenue demand amounted to Rs. 1,08,327.

Writing[1] in 1821, Mr. Traill was able to call attention to the improvement visible in the condition and prospects of the Kumaon peasantry. The value of land had largely increased, the quantity of waste land newly brought under the plough was far in excess of any previous year, the people were beginning to build substantial houses for themselves, and great numbers of the smaller landholders themselves now carried on the trade in the produce of the hills which was formerly monopolised by a few wealthy families of Sáhus. The causes of this prosperity are not far to seek, and may be briefly summarised thus; firstly, the lightness of the general assessment; secondly, the high price of grain which rose some four hundred per cent. since the introduction of the British rule; thirdly, the large sum, amounting to four lakhs of rupees, expended on public works, private holdings and the carriage of stores, nearly all of which fell to the labouring classes; and fourthly the reduced price of merchandise from the plains owing to the abolition of all transit duties.

Later[2] on Mr. Traill writes:—"The landed tenures in these mountains have never been disturbed by foreign conquest, nor have the rights of individuals ever been compromised by public sales of lands. The different districts of the province have indeed frequently changed their masters, but there have always been natives of the mountains following the same religion and pursuing the same revenue system as their predecessors. In these successive revolutions, the property

[1] To Government, dated 14th March, 1821. [2] To Government, dated 27th May, 1821.

of individuals has necessarily suffered, but the rights and tenures of land vested in the population at large, together with the normal institutions, have never varied, but remain at present in the same force and to the same extent as they existed centuries past. No difficulty, therefore, presents itself to the fullest ascertainment of the rights of every individual cultivator, and the smallness of the village communities offers every facility to this investigation * * * . No sales have ever taken place in this province. On the principle stated previously, the purchasers at public sales ought to be considered as having acquired only the right of *málguzári* (engagement for the revenue). In the event of a balance being due from the person engaging for the revenue (*málguzár*), he might be liable to forfeit his office and emoluments as such, and the same might be given to any other sharer in the estate engaging to make good the balance. When this may be due from a sharer not entitled to engage for the revenue his share may be made answerable either by being made over in property to the other sharers in the estate or to the *khâyakars* according to the circumstances of the landed tenures in the estate, the *málguzár's* individual share to be liable in the same manner where the whole balance cannot be realised by the disposal of the right to engage. By this arrangement, although the shares might be subject to alteration, yet the estate would always remain vested in the same family, and if the shares be made valuable by rendering their quota of the revenue fixed, the proprietors would be careful to prevent their alienation, while for the same reason others would be eager to obtain them. It is probable that many of these suggestions have already formed the subject of legislative enactment. If so, I have only to offer in excuse that as the Regulations do not extend to this province, I have not been furnished with or seen a single Regulation for the last six years."

The last paragraph shows the man who had responsible duties and did not seek to evade them. The whole of the work of reducing the chaos he received to some semblance of order was his own, unfettered by rules, which however well they may work amongst a people of another race and subject to different climatic and physical influences, would have simply perpetuated disorder were they introduced into these hills. The existing prosperity of the people of these districts is primarily due to the fact that the three great men intrusted with the administration—Traill, Batten and Ramsay—have steadily refused to allow the hills to be inundated with the rules and regulations of the plains and have accepted only those suited to the habits of the people and the peculiar nature of the country occupied by them. I cannot help trusting that the same wise discretion will be exercised in future.

Fifth settlement: first quinquennial.

The difficulties caused by the habit of migrating from one village to another common to most of the cultivators had not ceased on the expiration of the second triennial settlement in 1823, so that a settlement for

five years[1] was agreed to as most acceptable to the people. Strange to say this habit of deserting was seldom due to any objection to the individual assessment and occurred most rarely in the parganahs which were most heavily taxed and which had a numerous population. The report[2] on this settlement gives no details and merely states that the general result of the revision was an increase of about twelve per cent. and the final result was a revenue of Rs. 1,19,430. It was sugested also that in all the parganahs where the cultivation was advanced and where the landholders did not object, the present settlement should be extended for a second period of five years from 1828 A.D. By this arrangement leisure would be afforded hereafter in the resettlement of the remainder of the province for the ascertainment of the existing resources of villages. In Kumaon alone there were over six thousand estates separately leased, and in consequence the proceedings in each case were very summary and the adjustment of the new demand was made rather on a previous knowledge of the state of each village obtained by a lengthened residence in the interior of the district than on any new investigation of the assets. Sanction was accordingly given to a settlement for ten years in parganahs Páli, Bárahmandal, Chaugarkha, Phaldákot, Dánpur, Rámgár, and Dhaniyákot, and in the rest of the district a revision and resettlement for four years at the expiry of the existing quinquennial leases. This revision[3] took place in 1829, giving a net result for the whole district of Rs. 1,22,495. The greatest improvement took place in the parganahs bordering on the Bhábar owing to the number of new villages established there. Taking the whole tract along the foot of the hills from the Ganges to the Sárda, the revenue, exclusive of forest dues, in 1815 yielded only Rs. 1,450, whilst in 1829 it gave a land-revenue of Rs. 14,800. Writing[4] in 1825 :—

Sixth settlement.

Mr. Traill states that in the greater proportion of villages throughout the province cultivation is in the hands of the actual proprietors of the soil; in others again the right of property is vested in the descendants of some former grantee, whilst the right of occupancy and of cultivation remains with the descendants of

[1] To Board, dated 1st June, 1823; from Board, dated 24th July, 1823; to Board, dated 20th September, 1823. [2] To Board, dated 28th June, 1825; from Government, dated 26th February, 1826; to Board, dated 19th September, 1826. [3] To Board, dated 2nd January, 1829; from Government, dated 18th February, 1832. [4] To Government, dated 26th June, 1825.

the original occupants who were in possession at the time of the grant. In both these cases there can be no difficulty, as the cultivator is only liable for his quota of the State demand, whoever may be the *málguzár*. In other villages, however, the cultivation is carried on by resident tenants who have no right of occupancy, either acknowledged or prescriptive; these tenants pay their rents either in kind (*kút*) or in money (*sirthi*) according to existing rates or engagements or to former usage. In the fourth description of village the cultivation is *pahikásht*, that is by non-resident cultivators. In these the *málguzár* makes as much as he can from his estate, and under this head are included new settled villages, as in the Tarái, in reclaiming which a considerable outlay is always requisite. The State demand is for some years merely nominal with a view to that circumstance and to prohibit the adventurer from collecting beyond that demand must preclude all prospect of reimbursement and must at once tend to prevent further improvement. In *pahikásht* lands under full and fair assessment the farm is commonly an uncertain speculation, as the fickle disposition of cultivators of this description may sometimes be the occasion of loss and in other years of gain to the farmer. Where several individuals join together in reclaiming waste lands the adventurers all of course fall under the head of proprietors, though the name of only one of them should be entered in the lease. This observation applies equally to the villages of Brahmans which are cultivated chiefly by the slaves or servants of the several proprietors. In most of the old established villages a recorded portion of *sír* land is enjoyed by the *málguzár* rent-free as *hak padhánchári*, under which name it is detailed in the lease. This system might be extended on fixed principles to every village in the province, while in newly cultivated villages a term might be fixed after which the *málguzár* might be precluded from collecting beyond the public assessment from his tenants. The engagements between *málguzárs* and tenants are almost invariably verbal and written leases except for whole villages are unusual."

"In Páli, Bárahmandal, Dhaniyakot, Dánpur, the present assessment exceeds that of the Gorkháli settlement more than twenty-five per cent., and it may be stated generally that upwards of four-fifths of the arable land in these parganahs are in a state of full cultivation. In Chaugarkha also, the assessment exceeds that of the last Gorkháli demand, but only a small portion of the villages have attained a fair state of cultivation: in others, the waste lands form the largest proportion: in these an extension of the present leases might be considered premature. In Phaldakot the demand is on a lower scale of improvement apparently, but it is in fact the highest assessed parganah in Kumaon. The Gorkháli demand was calculated on the income of the people, rather than the assets of the land: the landholders here, being the chief carriers of the hill trade, were, therefore, taxed more highly than others whose means were derived wholly from the land. Rámgár contains the principal iron mines. In the demand of 1816, the revenue of the whole of such mines throughout Kumaon proper is included; the mines situate in other parganahs have now been brought forward in them. A deduction of Rs. 1,020 has been made in the demand of the present year by this measure: the farm of the mine should be left for revision. In Kota, Chhakháta, the great visible improvement arises from the reclaimed villages in the Kumaon Tarái. It is not recommended to extend the leases in this district. In Gangoli, owing to the continued ravages on human life committed by tigers, it is the least improved in comparison to its

extent of any in the province; full one half of the arable land being uncultivated, an extension of the present leases would in many instances be declined and if they were accepted would preclude Government from a share in the improvement of the next three years; from the demand of the present settlement, Rs. 3,868, must be deducted Rs. 500, the assessment of the copper mines in this parganah now brought forward with the land-revenue assessment, though hitherto separate."

I shall give another extract[1] from a letter of 1829, as these give life to the dry statistics of the various settlements and allow us to see the principles on which they were made: "On the introduction of the British Government in 1815, the most fostering attention was found necessary to enable the cultivators to recover from their destitution. The public assessment was imposed under a single head and was founded on the acknowledged collections of the preceding year. All extra cesses were struck out of the demand, and though the remission from this measure was for the most part nominal, the simplification of the system of collection proved no small boon to the landholders. At the five succeeding settlements, the State demand has progressed with the improvement of the country, though still in the aggregate below the Gorkhâli settlement of 1812. In its detail, the settlement is formed separately for each village, the engagement for which is taken from some one of the sharers under the designation of *padhán*. This officer is remunerated by a small parcel of rent-free land set apart for the purpose, and can demand from the other sharers no more than the exact quota of the public assessment which may attach to their individual shares. These sharers hold in severalty: consequently in the greater part of the province, that is, in the villages cultivated by the actual proprietors, the settlement has all the advantages of a *ryotwári* assessment without its uncertainty; the cultivator is thus secure of enjoying the whole profit of his farm after payment of the public dues, and before he puts his hand to the plough, he knows the exact sum which he will have to pay. But though the revenue of the Government and the individual income of the landholder be circumscribed by the existing state of landed property, it is by no means certain that the interests either of the public or the individual would be benefited by a more unequal division of land. Large farms require for their support either a local consumption or a foreign market. Now the population of the interior is wholly agricultural and the sole unproductive consumers are the few government servants stationed here. From the nature of the country and consequent difficulties of transport few articles of agricultural produce can bear the expense of carriage in exportation. The Bhotiyas, it is true, take off a large portion of the surplus produce of the northern districts for the Tibetan market, but only in the way of barter, in which salt or borax is exchanged for grain. The only certain demands on which the interior agriculturist can here depend are the markets at the military stations."

Seventh settlement.

The settlement in the parganahs, in which agreements for four years only were taken, expired at the end of August, 1832, and just at the moment the new assessment was being made, flights of locusts settled down all

[1] To Government, dated 2nd January, 1829.

over the country and so injured the growing spring-crops that a bad harvest was the result. In the following year, when the remainder of the leases fell in, a deficiency in the rainfall caused some injury to the rain crops.[1] Although these unfavourable circumstances were more formidable in prospect than destructive in their actual effects, they effectually alarmed the landholders and rendered them averse to enter into new engagements. Their influence, also, on the entire settlement caused the increase gained to be much less than what might have been expected from the extension of agriculture in the province. Actual abatements were in many cases necessary, many being due to transfers of estates from one parganah to another. The number of the leases at the former settlement was 5,704 and averaged only Rs. 37 each in amount, and in such petty estates casualties amongst the cultivators were met with difficulty and rendered frequent revisions of settlement necessary. An attempt was therefore made to reduce the number of separate engagements, so far as the wishes and interests of the landholders would allow, with the result that in 1833 there were 4,605 separate leases, giving an average land-revenue of Rs. 46 for each lease. For these reasons Mr. Traill proposed a settlement for five years only, which resulted in a revenue for the entire district of Rs. 1,24,729.

The Board of Revenue recommended that the settlement of 1832-33 should be extended for a period of twenty years;[2] but the Government refused to sanction this arrangement without having the opinion of Mr. Traill, who wrote as follows:—

"The extension of the new settlement for a term of 20 years would doubtless be attended with advantage in those parganahs of which the villages are fully populated and cultivated; but in other districts where population and cultivation are at a low ebb, and where waste lands abound; such a measure would shortly be followed by a loss of revenue from the facilities with which new locations are there obtainable. The habits of the cultivators are extremely unstable and migratory; vacancies arising from desertion are not readily filled by new tenants, while the general poverty of the landholders and tenantry render them

[1] To Commissioner, Bareilly, dated 24th December, 1833; from Commissioner, Bareilly, dated 3rd January, 1834. [2] From Commissioner, Bareilly, dated 13th June, 1834; to Commissioner, Bareilly, dated 23rd June, 1834.

incapable of meeting from their own funds, the additional burthens entailed by such desertions. In these cases, the lease would be thrown up and remissions in the demand indispensable to save the village from total desertion; at the same time no advantage could be taken of the growing improvement in other villages. It may be doubted whether the landholders in these districts would willingly engage for so long a period unless the tenants of their respective villages should be considered as parties in the engagements and remain bound for the same term. Under the Gorkhâli government, when a fixed village settlement was promulgated, the above principle was fully recognised, and the claim of the landholder followed his tenant wheresoever he might migrate."

According to Traill's last report, written in 1833, the total revenue had risen from Rs. 1,17,730, exclusive of transit dues in 1815 to Rs. 2,34,410 in 1833 over the united districts of Kumaon and Garhwâl.

Colonel Gowan's report.

In the meantime, Mr. Traill was suceeeded by Colonel Gowan, who was directed to report in what parganahs the extension of the term of settlement as proposed by the Board of Revenue would be acceptable to the body of the landholders.[1] All he could say was that he could get no information that could be relied upon, that he believed that in Askot in Kumaon the people were willing to take leases for ten years, and that in portions of Garhwâl they would accept a settlement for twenty years. He was told that "nothing of a satisfactory reason palpable or probable was shown by him for the stated repugnance to the extension of the term of settlement, nor did there appear any reasonable ground which could account for the people or the tahsîldârs declining to answer the question which he was directed to put to them." He was therefore requested to continue his investigation and report the reasons for the disinclination shown by the landholders. In reply, Colonel Gowan repeated Mr. Traill's observations on the previous settlement, and some conversations that he himself had with the people in which it was said:—"Twenty years is nearly the term of a man's life. Who can tell what may happen to a man in that period, the cholera

[1] From Commissioner, Bareilly, dated 2nd May, 1836; to Commissioner, Bareilly, dated 2nd September, 1836; from Commissioner, Bareilly dated 8th September, 1836; to Commissioner, Bareilly, dated 14th September, 1836; to Mr. Thomas, Bareilly, dated 9th March, 1837. The arrangement by which the landholders near Lohughât supplied grain to the troops at fixed prices was, abolished, dated 5th June, 1837.

or some other epidemic may break out and sweep of all our cultivators, and then what is to be done?" The people declined to be pressed for a reply as they generally were averse to any prolongation of the settlement. He was then directed to continue the existing settlement for one year and in the meantime to do all in his power to induce the landholders to agree to a settlement for twenty years. Sections 5 and 7 of Reg. X of 1831 gave jurisdiction to the Board of Revenue over revenue matters as well as customs, excise and stamps in Kumaon, and by Act X of 1838 it was further enacted that the functionaries who are or may be appointed in the province of Kumaon shall henceforth be placed under the control and superintendence of the Board of Revenue at Allahabad in revenue cases and that such control and superintendence shall be exercised in conformity with such instructions as the said functionaries may have received or may hereafter receive from the Government of the North-Western Provinces.

Ninth settlement.

The ninth settlement was made by Mr. Batten during the years 1842-46 and was for twenty years. This was the first partial attempt to measure and examine the capabilities of the land and to form a record of rights. The result of the revision was a revenue of Rs. 1,30,094, which in the average of the last five years of the currency of the settlement amounted to Rs. 1,29,765 a year. In his final report on the settlement Mr. Batten states that the general rules adopted for the leasing and management of estates (*mahâls*) and the appointment of *padhâns*, the boundaries of villages and settlement of disputes concerning them, the right to waste lands, pasture grounds and forests, the assessable area of estates and measurement of lands, and finally the record of settlement noticed by him in his report on the settlement of Garhwâl equally apply to Kumaon, and as these matters have been dealt with in some detail in the notice of that district, the reader is referred to it for the detailed principles observed in the assessment.

"The only repetition that appears necessary is that the remuneration of *padhâns* in land, money or dues or all these combined was in Kumaon, settled by the mutual agreement of the parties, and failing that,

by decision of arbitrators, and that the allotment of *hak-padháni* land recorded in the statement papers represent actual facts and not the nominal figures of the old records."

It was further arranged that no attempt at actual demarcation of waste lands included nominally within a village boundary should be made where there was no dispute owing to the existence of the rule to lease newly broken up lands to the nearest village or to offer them to the landholders of such villages first rather than to strangers. It was not through any fault of Mr. Batten that the detailed survey and record effected by Mr. Beckett at the recent settlement was not taken in hand twenty years earlier. He writes:—

"A revenue survey of the mountain parganahs founded on the principles adopted in the plains can hardly be expected after the Government has been informed by its district officers that such a survey, however useful, in determining existing agricultural possessions would not favourably affect the total amount of revenue in regard to the State, and if permitted to modify the distribution in regard to the inhabitants would perhaps end in seriously injuring the budget. For would not its tendency at least be to equalise the payments strictly derivable from the gross produce of the soil; to fix a Government share of that produce founded on experience elsewhere and to exclude from the fiscal capabilities assets which the people have been hitherto content to consider available for the nominal land-tax."

The latter consideration forced eventually the actual survey and appraisement of the produce of the land on the authorities which was carried out by Mr. Beckett. As to the assessment itself, Mr. Batten was of opinion that—

"No great increase of the land-revenue under the present system need be expected. In opposition to the prevailing opinion Kumaon is over-assessed rather than under-assessed; that is a large portion of the rent of the land in the old occupied tracts is now taken by the State as both *de jure* and *de facto* landlord, and though no actual hardship is experienced, though pauperism is unknown, though a hill labourer is always better lodged and often better fed and clothed than his fellow of the plains, and though a general feeling of content and loyalty exists, still one can perceive in the present state of affairs (1846) no elements of increasing wealth of which revenue will be the future sign and expression. In the ill-inhabited tracts, the low assessment is owing to causes which except in the most insalubrious valleys, may give way before the march of population. But in the well-inhabited tracts, the revenue is paid by the people themselves more as a capitation tax than anything else, in the same degree that the fisc improves in Katyúr and Gangoli will it in all probability decline in Pali and Bárahmandal."

These lines were written before the tea-industry attained its present development and brought into the province large amounts of capital every year to be expended within Katyúr, Gangoli and Lohba, and before the hill sanitaria of Ránikhet and Naini Tál, brought willing mouths capable of consuming, not only the existing surplus produce, but all that the lands capable of cultivation can yield. Although Mr. Batten's hope that "the present generation may yet behold the now jealous occupants of rice and wheat fields humble applicants for tea-seeds" has not been fulfilled, the results expected from the introduction of the tea-plant have been fully justified. Upwards of 12,177 *bísis* are now held in fee simple, chiefly for tea-gardens in Kumaon alone, and the capital expended on them has found its way into the pockets of the poorer classes of these hills and of the Nepál district of Doti, vastly raising their physical and moral status and placing them in a position which from all we know of their history, they never before attained to.

Character of the settlement.

As already noticed the characteristic of Mr. Batten's settlement was the record-of-rights that was framed for each village. This contained a complete description of the rights of every occupant; the past history of the assessments; the boundary arrangements; the engagement paper (*ikrárnámah*) of the inhabitants in regard to the remuneration of the *padhán* and the collections of all sorts to be made under the heads of *thokdári*, *sayánachári* and *hissahdári* dues and also binding themselves down to a conformity with certain rules in regard to the public service and good administration and the *phard-phant* showing the names of the *padhán*, the distribution of the revenue payers amongst the several *padháns* where more than one were elected; the quotas of revenue payable by the several shareholders or occupants; the division of the non-proprietary tenantry amongst those recorded as proprietors and the names and liabilities of the *pahikásht* and other cultivators whenever discoverable. In addition to these documents there was a memorandum (*rubahkári*) summarising the whole and the numerous petitions presented depositions taken, and orders passed during the course of

the settlement on miscellaneous matters formed separate files in the proceedings.

The following table gives the results of the settlement under Reg. IX of 1833 effected by Mr. Batten in 1842-46 :—

Parganah.	Number of estates.	Number of villages.	Assessment in rupees. 1815.	1816.	1817.	1820.	1823.	1828.	1833.	1841.	Assessable area in bisis. Total estimated.	Cultivated.	Culturable.	Rate on cultivation per bisi.
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.				Rs. a. p.
Bhot (Juhár Darma).	89	337	9,367	10,910	9,590	3,860	4,714	4,753	4,822	4,791	13,779	8,645	5,012	0 8 10
Dánpur ...	210	473	3,487	3,842	4,164	4,432	5,522	5,576	5,657	5,637	12,439	6,697	5,354	0 12 5
Gangoli ...	381	758	1,820	2,035	2,120	2,698	3,278	3,538	3,720	3,972	16,302	7,742	8,063	0 8 3
Dhaniyakot ...	63	102	2,767	3,603	4,061	4,465	4,743	4,738	4,783	4,819	5.776	5,325	204	0 14 6
Phaldakot ...	107	156	6,324	6,524	7,191	7,475	7,919	7,889	8,040	8,050	13,169	12,540	551	0 10 3
Sira ...	146	228	1,791	2,183	2 356	2,736	2,984	3,103	3,188	3,195	13.566	8,399	4,884	0 6 1
Shor ...	285	407	3,481	4,004	4,589	5,492	6,134	6,620	6,635	6,690	23,746	15,330	8,113	0 7 0
Askot ...	2	109	709	858	915	996	1,095	1,095	1,174	1,174	1,464	853	611	1 6 [illegible]
Káli Kumaon,	538	814	8,970	9,706	10,907	12,186	14,101	15,321	15,529	15,6[illegible]	41,796	32,079	9,407	0 7 9
Dhyánirau ...	100	182	4,101	4,320	4,902	5,456	5,768	6,047	6,128	6,212	9,450	7,783	1,647	0 12 9
Rámgár ...	20	536	1,944	1,946	2,317	1,969	1,859	1,886	1,862	1,864	1,517	1,302	209	1 6 10
Chaugarkha...	292	02	4,118	4,515	5,123	6,817	7,714	7,736	7,868	8,119	21,214	15,883	4,717	0 8 2
Chhakháta ..	48	83	1,715	1,625	1,741	2,024	2,231	2,527	2,595	2,623	2 828	2,620	160	1 0 0
Kota ...	55	76	2,183	2,367	2,436	1,962	1.986	2,315	2,317	2,285	2,591	2,154	382	1 0 9
Bárahmandal,	506	665	9,300	10,219	11,194	15,044	17,344	17,381	17,854	18,172	19,542	17,732	1,197	1 0 11
Páli ...	507	1,057	20,902	20,911	25,593	31,246	32.597	32,639	33,139	33,793	30,704	27,828	1,865	1 3 5
Total ...	3,350	5,985	82,979	89,568	99,199	1,08,858	1,19,989	1,23,164	1,25,331	1,27,10[illegible]	2,29,883	1,72,912	52,383	0 11 9
Waste villages,	39	98	63	72	98	105	129	144	353	...	1,829	26	1,802	...

Besides the above, 344 villages having a total area of 11,225 *bisis*, exclusive of unmeasured waste, were held free of revenue as endowments of temples, and 93 villages having an area of 2,382 *bisis* were held free of revenue by individuals.

Current settlement.

The tenth and current settlement of the Kumaon district (excluding the Bhábar) was effected by Mr. Beckett during 1863-73, and runs for thirty years. Unfortunately Mr. Beckett was obliged by ill-health to proceed on furlough before writing a report, so that we have nothing but two ponderous volumes of figured statistics and a short introduction by Sir Henry Ramsay to give us an account of this the most important, for its procedure and results, of all the settlements of Kumaun. Although Sir H. Ramsay has been good enough to say that details and particulars will be found in Mr. Atkinson's *Gazetteer*, the following account of the settlement proper is mainly based on his own summary. As has already been noticed, there was a considerable revision of pattis and parganahs at the recent settlement, which altered the areas so much that, when writing of a parganah and its revenue in the time of

Mr. Batten and Mr. Traill, it may not represent the area known under the same name at the present day. As the details of each patti will be found under separate notices in the alphabetical arrangement, it will be here only necessary to give the details by parganahs and the total for the district. The following statement shows the particulars of the current and past statements according to the present arrangement :—

Parganah.	Number of—		Assessment in rupees.									Termination of settlement in *fasli* year.
	Estates.	Villages.	1815.	1816.	1817.	1820.	1823.	1828.	1833.	1843.	Current.	
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Bárahmandal...	519	601	9,241	10,148	11,074	14,767	16,956	16,896	17,328	18,075	36,833	1,310
Chhakháta ...	51	61	1,520	1,449	1,471	1,699	1,898	2,144	2,204	2,204	4,008	1,309
Chaugarkha ...	362	474	3,992	4,433	5,047	6,776	7,644	7,607	7,800	8,013	15,872	1,310
Dánpur ...	316	517	3,584	3,966	4,280	4,614	5,746	5,853	5,958	5,920	15,362	1,310
Darma ...	37	43	4,518	5,766	4,530	1,225	1,345	1,368	1,405	1,400	1,886	1,308
Dhaniyakot ...	81	98	3,154	4,139	4,699	5,092	5,412	5,412	5,494	5,508	7,164	1,309
Dhyánirau ...	134	171	4,078	4,230	4,935	5,428	5,746	6,052	6,190	6,257	19,484	1,308
Gangoli ...	495	747	1,717	1,919	2,011	2,558	3,065	3,298	3,469	3,642	12,944	1,308
Juhár ...	107	212	4,843	5,140	5,052	2,634	3,382	3,380	3,439	3,373	5,975	1,309
Káli Kumaon...	580	711	8,960	9,764	10,967	12,248	14,152	15,363	15,555	15,621	25,873	1,307
Kota ...	51	67	2,069	2,227	2,257	1,831	1,819	2,139	2,144	2,122	2,894	1,309
Páli ...	773	1,048	21,050	21,166	25,769	31,236	32,684	32,764	33,249	33,893	57,320	1,309
Phaldakot ...	128	151	5,887	6,133	6,691	7,001	7,404	7,404	7,528	7,555	10,346	1,309
Rámgár ...	26	31	1,944	1,947	2,317	1,969	1,859	1,901	1,912	1,914	2,304	1,309
Síra ...	166	236	1,905	2,199	2,383	2,759	3,011	3,120	3,223	3,205	5,999	1,308
Shor ...	280	363	3,536	4,002	4,593	5,495	6,141	6,638	6,657	6,687	14,114	1,306
Askot ...	2	142	709	858	915	995	1,095	1,095	1,174	1,174	1,250	1,308
Total ...	4,108	5,673	82,707	89,537	98,991	1,08,327	1,19,430	1,22,495	1,24,729	1,26,573	2,30,628	
GRAND TOTAL...	4,489	6,573	85,328	89,688	99,228	1,08,599	1,19,730	1,22,829	1,25,121	1,30,633	2,49,370	

The following statement gives the particulars of area and population on which the assessment was based :—

Parganah.	Assessable area in *bísis*.				Rate per acre on—		Population.		Revenue-free, in *bísis*.	
	Total.	Cultivated.		Culturable.	Total area.	Cultivation.	Males.	Females.	*Gánth.*	*Muáfi.*
		Irrigated.	Dry.							
					Rs. a. p.	Rs. a. p.				
Bárahmandal...	34,724	2,840	23,676	8,208	1 1 0	1 6 3	31,740	28,434	1,346	1,332
Chhakháta ...	4,255	487	2,217	1,553	0 15 1	1 7 9	3,750	3,357	10	...
Chaugarkha ...	22,307	723	14,348	7,235	0 11 5	1 10 0	14,802	12,643	1,980	206
Dánpur ..	19,019	3,977	5,832	9,210	1 12 11	1 9 1	10,097	8,769	1,440	299
Darma ...	2,347	271	1,436	641	0 12 5	1 1 1	2,563	2,138	...	103
Dhaniyakot ...	5,702	980	3,494	1,229	1 4 1	1 9 7	6,008	5,759	...	862
Dhyánirau ...	13,381	860	8,101	4,419	0 12 6	1 2 9	8,996	7,786	36	...
Gangoli ...	19,647	3,379	6,186	10,081	0 10 6	1 9 8	10,167	8,853	993	164
Juhár ...	6,332	1,079	2,317	2,936	0 15 1	1 12 2	5,074	4,488	61	...
Káli Kumaon...	37,079	1,653	22,267	13,263	0 11 2	1 1 5	22,666	19,164	1,889	262
Kota ...	2,866	373	1,448	1,045	1 0 2	1 9 6	2,399	2,207	...	...
Páli ...	62,641	2,294	49,940	10,406	0 14 8	1 1 7	48,054	4,304	1,263	69
Phaldákot ...	9,832	704	7,133	1,996	1 0 10	1 5 1	8,582	48,269	37	...
Rámgár ...	2,611	19	1,469	1,123	0 14 1	1 8 9	2,683	2,474	...	...
Síra ...	5,960	1,758	1,865	2,336	1 0 1	1 10 6	4,215	3,629	216	...
Shor ...	14,287	3,480	5,947	4,860	0 15 9	1 7 11	10,012	8,938	191	...
Askot ...	4,188	689	2,144	1,355	0 4 9	0 7 1	3,139	2,740	...	...
Total ...	2,67,178	25,472	1,59,810	81,895	0 13 10	1 3 11	1,94,947	1,73,952	9,437	3,297
GRAND TOTAL...	3,00,026	26,944	1,71,312	89,591	...	...	2,09,176	1,86,310	...	...

If assessed to land-revenue, the *gúnth* or temple grants would yield Rs. 8,447 per annum and the *muáfi* or personal grants Rs. 3,412 per annum. In addition to these the *sadábart* villages comprising those whose revenues are devoted to charitable purposes, chiefly keeping up the dispensaries and rest-houses along the pilgrim routes, numbered 124, with an area of 6,718 *bísis* of assessable land and assessed at Rs. 5,800 per annum. Further, 12,177 *bísis* were held in fee-simple at a quit-rent of Rs. 1,083 per annum, including the sites of nineteen villages. Eleven villages were held by Government itself in fee-simple and 237 villages were waste or covered with forests and held no place on the revenue roll. The 'total' line at foot in both the preceding tables refers only to the revenue-paying area, the 'grand total' line includes the statistics of the revenue-free areas above enumerated and gives the real total of the district. Distributed by tahsíls the statistics are as follows:—

Tahsíl.	*Revenue-paying.*		*Sadábart.*		*Gúnth.*		*Muáfi.*		*Fee-simple.*		Waste villages.
	Villages.	Revenue.	Villages.	Revenue.	Villages.	Revenue.	Villages.	Revenue.	Villages.	Revenue.	
		Rs.		Rs		Rs.		Rs.		Rs.	
Almora ...	3,795	1,57,667	121	5,474	362	6,624	69	2,248	15	1,003	104
Champáwat,	1,526	51,582	...	...	77	1,783	12	208	3	46	87
Bhábar ...	352	21,379	3	326	5	40	11	956	1	34	16
Total ...	5,673	2,30,628	124	5,800	444	8,447	92	3,412	19	1,083	207

The Almora tahsíldár has a deputy or peshkár for Páli in Almora and the Champáwat or Káli Kumaon tahsíldár a deputy at Pithoragarh. The Bhábar tahsíl includes a portion of the lower hills but has chiefly to administer the revenue affairs of the Bhábar proper.

Material for assessment.

There was no actual measurement of the land on which any reliance could be placed beyond the estimate made by Mr. Traill in 1823, which was of little use except for boundaries. It was prepared by native officials who sat on some commanding position and summoned the *padháns* of the villages within sight, and from them noted down the boundaries and estimated the areas and thus afforded some

very rough idea of the size of each village. The *phard-phant* of Mr. Batten gave information only of the number of sharers and cultivators and the revenue demandable from each. Being prepared by the villagers themselves, whose object was to conceal their numbers and make their village appear as poor as possible, the revenue was distributed amongst a very few of the shareholders, and except where the permanent tenants (*khâyakars*) were on bad terms with the proprietors, a very large proportion of them was omitted. It was of use, however, in accustoming the people to think that they had rights worth recording and during the currency of the past settlement many villages were properly surveyed, trained surveyors arose, and the people became accustomed to the idea that an accurate record of the capabilities of the land formed the best basis for the contract between them and those from whom they held and between their village and Government. Consequently when measurement operations actually commenced; the staff found the people ready to receive them and indeed willingly to co-operate in the objects of the survey. The measurement was carried out on these principles:—(1) all terraced land was to be measured unless it had relapsed into forest but forest clearings and slopes cultivated only after the lapse of eight or ten years, known as *khil* or *kaunla*, were not to be measured and each enclosure or field was to be measured separately:—(2) the whole of the terraced land was to be shown under four qualities, *a*, irrigated; *b*, good dry; *c*, second-rate dry and, *d*, casual cultivation or *ijrân*. The surveyors, however, did not adhere to these instructions and it was found necessary to classify all the culturable area under, *a*, permanent cultivation; *b*, casual cultivation, and *c*, waste. By 'waste' all through the records is meant terraced land thrown out of cultivation and does not include the grassy slopes or forests within the nominal area of a village.

Procedure.

The instrument used was a hempen rope sixty feet long divided into ten lengths of six feet each, and if to this we add that the terraces are usually of the most irregular shapes in length and width, the result must be at the best little more than an approximation, but one of the greatest value and far superior to anything in existence before as a basis for assessment. As a record-of-rights, regarding the occupation and

ownership of each terrace, they are particularly valuable, the more so when we consider the fact that in some villages there are upwards of six thousand of these terraces, some not more than ten square yards in area and yet each can be readily identified by means of the village maps. As a check on the surveyors each occupier was given an extract from the survey record (*purchah*) relating to his own holding and he had thus means to bring before the settlement officer any omissions before the final record in the books, on which the assessment was made. An ingenious procedure was then had recourse to in order to bring all the land in the village to one common standard of quality. That of second-rate dry land known in the hills as *duwam upráon* was selected and each of the other three classes was brought to this standard by trebling the irrigated, by adding one-half to first quality dry and by reducing casual cultivation by one half. Thus a village with an area of ten *bísis* irrigated had 30 estimated for that class; twelve first quality dry was held equal to 18 and twelve *ijrán* was held equal to 6, or all were equivalent to 54 *bísis* of second quality dry cultivated land for assessment purposes. The next difficulty was to ascertain the rates to be applied to the areas thus found and in the absence of *jamabandis* or rent-rolls, it was necessary to estimate the produce of each class of soil. In irrigated land it is very common for the proprietor to take one half the produce; in first-class dry, one-third, and in second-class dry one-fourth to one-fifth. Then comes the question of the produce per *bísi* which varies with the position, cultivation and soil. In some places, irrigated land yields as much as 60 maunds of unhusked rice per acre and 40 maunds is a common yield and good first-class dry land gives 40 maunds of wheat or *manduwa*. The following table shows the general result for the district:—

Crop.	*Average yield per acre.*			*Average money value.*		
	Irrigated.	1st dry.	2nd dry.	Of produce 2nd dry.	Add half for second crop.	Total.
	Mds.	Mds.		Rs.	Rs. a.	Rs. a.
Rice	20	12	8 @ 20 seers.	16	7 8	23 8
Wheat	16	12	6 @ 16 „	15	7 8	22 8
Mandawa ...	...	16	10 @ 30 „	13	7 8	20 8
Mandua ...	...	16	10 @ 30 „	13	7 8	20 8
Urd	...	10	6 @ 16 „	15	7 8	22 8

In the second money column, the return of half an acre is only given, as land is usually left fallow for a second crop every second year. The total shows the average yield per acre of second class dry land. Taking everything into consideration, an average rate of one rupee per *bísi* (forty yards less than an acre) was held to be the average rate in second quality dry land, and thus the good land was made to help the bad land in the rates assessed. How this compares with the rates fixed at previous settlements and how it falls on the total assessable and cultivated areas in each parganah may be seen from the figures given in the preceding tables. Broadly, Traill's assessment in 1823 fell at Re. 0-12-2 per *bísi*: Batten's in 1842 at Re. 0-8-11 per *bísi* on the total assessable area, and Beckett's in 1870 at Re. -0-13-10 and subsequent experience shows that in the greater part of the district this is not too light.

Other considerations were taken into account in applying these rates to the particular villages: the vast changes due to the great amount of money brought into the district by the tea-planters and the public-works at Ránikhet; the great advance in the price of grain, which has almost doubled, and the increase in population. The last has always been an important factor in hill assessments and is well recognised by the people themselves, who frequently urge, as a cause for remission of revenue, the death or desertion of a wife or daughter. In many places, owing to the paucity of inhabitants, the able-bodied cultivators are of equal importance with the land in estimating the assets of a village. Another of Mr. Beckett's processes was applied to bringing out the value of this factor in the assessment. He ascertained (*a*) the average population per each one hundred measured acres for the whole district; (*b*) the average population per one hundred acres of the cultivated area; (*c*) the average population per one hundred acres for the cultivated area with half the *ijrán*; and (*d*) the average on three-fourths of the total area. For example, the average population per one hundred acres on the whole district being 141, a village with a population of 70 to the hundred acres would give a rate of eight annas, the land-rate being one rupee, the mean of the two or twelve annas gives the average rate according to population. Were the population of the village 280 under the same circumstances the average rate would be

Population.

Re. 1-8-0. Under the second form of calculation the average population per one hundred acres of cultivation being 195 and the revenue rate only Re. 0-14-6 per acre, a population of 98 would give a rate of Re. 0-7-3, or taking the mean of the two, eleven annas per acre. Under the third calculation the population average being 185 per one hundred acres and the revenue rate Re. 0-13-6 per acre, if the population were 92, the population rate would be Re. 0-6-9 and the mean, ten annas. The average of the resultants was considered the population rate of the village.

Application of area rates.

The statistics of area compiled for each village also aided in the assessment. These comprised (1) the total area measured by the villagers; (2) cultivated land with addition for quality (*i.e.*, the application of the process already described for reducing all to the standard of second-class dry land, (3) cultivation with half *ijrán*; (4) three-fourths of total measured area with addition for quality. Any excess in 1 over 3 showed that there was much waste land; excess in 2 over 3 showed a large predominance of permanent cultivation, and if 2 exceeded 1 it was seen that the land was exceptionally good or well irrigated. Excess in 3 over 2 showed too much *ijrán*; in 4 over 3 too much waste and in 4 over 1 that the land was good. With all these indications before him Mr. Beckett formed his statistical average rate for each village. But in addition to this, he personally inspected each village and had before him its history from the conquest, and it was a consideration of the facts thus brought to light that led to modifications of the statistical rate. Thus it will be seen, that much care and trouble was bestowed on the collection of materials and their application such as would give an assessment fair alike to Government and the people. Although the phrase '*nám bikat kám bikat*' has passed into a proverb, we may well agree with Sir H. Ramsay that the assessments as a whole are fair, though in consequence of their having been raised so high in comparison with the old land-tax, they are sufficiently high, the increase amounting to Rs. 1,03,518 or 81·43 per cent.

Cultivation and population have increased to a remarkable extent, and during the work of survey many parcels of land which had been concealed and villages connected with the court officials who had managed to underestimate the assets were now brought

for the first time at a fair value on the revenue-roll. Mr. Beckett was careful to omit from his calculations all waste of the description already noticed, although the villagers themselves desired it to be measured. The people have full power, however, to use such land as they like, as well as to extend their cultivation into unmeasured forest tracts without any increase to the demand during the currency of the settlement. The only exception is in the neighbourhood of Almora, Ránikhet, and Naini Tál where forest land is of great value for timber and fuel, here cultivation can only be undertaken with the special consent in writing of the district officer and covenants to this effect have been entered in the settlement records. It is to this system that we owe the extension of cultivation that has taken place and in the less cultivated parts, industry will enable the people to make the heavier assessment less burdensome in a very short time. Still summary settlements may be found necessary. Sir H. Ramsay writes:—

"Land may be washed away by floods or destroyed by landslips; cattle-disease, the death of cultivators or other necessity may arise for rendering relief, permanent or temporary, necessary; and in my opinion such relief ought to be offered readily: because all cultivated land has been now assessed and the loss of cultivators or cattle might imperil the existence of a village which could be averted by a little trouble and the expenditure of a few rupees. Small villages are more likely to require relief than large ones; but it must be remembered that one proprietor may lose all his land and he can get no relief from the other shareholders, therefore his individual case ought to be considered if necessary."

Sir Henry Ramsay was the guiding spirit in all these arrangements, to him was submitted the assessments in every village almost, and with him lay the decision on doubtful points of procedure. To the administrative powers of Traill, Sir Henry Ramsay has added also the love of order and law so marked in Mr. Batten's work, whilst, perhaps, he has had a more difficult charge than either; for in his time came the flood of circulars and departments, each of the latter trying to justify its existence, not by doing its own work but by asking the already overworked district officer to do it for them. Perhaps Sir Henry Ramsay will have gained as lasting a reputation from the stern 'No; not applicable to Kumaon' with which he greeted many of the purely routine circulars, as from the many and solid benefits that he has conferred on Kumaon during his long and valued career. The settlement department

owes to him that it was able to achieve the great work accomplished at the recent settlement without the detailed procedure solely applicable to the plains, which at one time it was resolved should be adopted in Kumaon. Parganah rates are hardly valuable in a district where the tract within the boundaries of a single village has climates varying from the Arctic regions to the Tropics : the people, the tenures of land and the mode of agriculture are utterly different from the practices of the plains and should not be forced to appear uniform to them in theory or practice.

Collections.

The working of the settlement will be best understood from the following table showing the demand, collections and balances since 1872-73. The years 1877-79 were years of scarcity which affected Kumaon as well as all Upper India, and the balances of 1880-81—1882-83 both recoverable and nominal were due to the floods of the year 1880 ; the column ' irrecoverable ' shows the real remissions :—

Year.	Demand.	Collection.	Balance.	Particulars of balance. Real. In train of liquidation.	Doubtful.	Irrecoverable.	Nominal.	Percentage of real balance to demand.
	Rs.	Rs.	Rs.					
1872-73 ...	1,64,432	1,63,896	536	455	65	...	16	·32
1873-74 ...	1,64,236	1,61,554	2,682	449	416	15	1,803	·53
1874-75 ...	1,63,858	1,61,883	1,975	227	454	10	1,284	·42
1875-76 ...	1,96,995	1,93,786	3,209	675	...	...	2,534	·34
1876-77 ...	2,37,537	2,32,318	5,219	2,757	...	...	2,462	1·16
1877-78 ...	2,35,134	2,29,521	5,613	5,557	...	...	56	2·36
1878-79 ...	2,35,146	2,21,756	13,390	13,384	...	...	6	5·69
1879-80 ...	2,34,824	2,19,549	15,275	15,275	...	...	...	6·5
1880-81 ...	2,34,427	2,31,657	2,770	1,950	197	623	...	1·18
1881-82 ...	2,34,494	2,30,768	3,726	1,189	...	2,485	52	1·57
1882-83 ...	2,34,563	2,31,228	3,335	852	...	...	2,483	·36

Tenures.

Although the tenure of land and its rights[1] and duties have undergone many changes since the conquest, still the maxim that the property in the soil rests in the paramount State has never been forgotten. This principle has not only been theoretically acknowledged under former Governments by their subjects, but its practical existence is

[1] To Government, 2nd January, 1829.

also deducible from the almost unrestricted power of alienation which the sovereign always possessed in the land. The occupant landholders held their estates in hereditary and transferable property, but their tenures were never indefeasible; and as they were derived from grants made by the supreme power in the State, so they might be abrogated by the grantor or his representative even without any allegation of default against the holder and without any reservation in his favour.

From the extreme attachment of the landholders to their estates, the frequent exercise of such a prerogative would doubtless have been highly unpopular. In the interior, it appears to have been infrequent, as may be judged from the length of time which villages have remained in the possession of the same families. But in the neighbourhood of the capital and on the border, such arbitrary transfers were not uncommon; and where a provision in land was called for to reward military services, or to remunerate the heirs of those slain in battle, it was usually made at the expense of existing rights. Land held in proprietary right is still termed *thát*, and a proprietor is called a *thátwán*, the term *zamíndár* or landholder being restricted to its ordinary and natural meaning of cultivator actually holding or occupying the land, whether a proprietor or tenant. Grants in tenure of *thát* and *rot* (the term under which lands were usually given to the heirs of those slain in battle) conveyed a freehold in the soil as well as in the produce. Where the proprietors are a coparcenary body, the tenure is that usually called *bháyachára* in the plains and here *bháya-bhant*, in which the proprietary right is in an extreme state of subdivision, each estate being shared amongst all the coparceners. Traill found that three-fifths of the district were held by these proprietors, so that the settlement represented in a great measure the *ryotwári* settlement of other provinces. The origin of such property is traced either to long-established hereditary occupancy; to a grant from the State; or to purchase from some former proprietor.

Mr. Traill writes (1821):—

Mr. Traill on tenures.

"Under the former Governments all servants of the State, both public and private, received, on their appointment to office, a grant of land for the support and establishment of their families. These lands have under succeeding sovereigns been subjected to rent,

but the proprietary right has generally remained with the original grantee or his descendants. Grants of this nature are wholly distinct from those in tenure of *nankár*, *naukari* or *jáedád*, which conveyed no property in the soil; like the latter, however, their continuance or annulment has ever been subject to the pleasure of the ruling power. Tha descendants of the above-described grantees form the first class of landholders in the district.

A second class derive their title solely from long-established occupancy: this class is composed of aborigines of the mountains, while the former consists almost universally of descendants of emigrants from the plains.

A third class of proprietors, created during the Gorkháli Government, are those who, in consideration of receiving the proprietary title, have brought waste lands into cultivation. To this class a considerable addition has been made under the present Government, as with a view to the encouragement of cultivation, the practice of the Gorkháli Government in this respect has been continued.[1]

With regard to the Doms, they are almost invariably throughout the district the property of the landholders, and reside in the villages of their respective owners. The only separate establishment of Doms are those which come under the first description of proprietors, and consist of carpenters, masons, potters, blacksmiths, miners, and a variety of other trades which are here carried on solely by persons of this caste."

Sir H. Ramsay writing in 1874 states:—

Sir H. Ramsay on tenures.

"During an experience of thirty-three years I have observed much change under the head of tenure, from the advancing positions of the parties concerned. As stated in Mr. Traill's report,[2] the paramount property in the soil rested with the sovereign, not theoretically only, for the unrestricted power of alienation was exercised at the will of the ruling power in the time of the Rájas and to the end of the Gorkháli Government. A village was given to an astrologer, a doctor, a cook or a barber; and the cultivators in possession, whatever their former status, became to all intents and purposes the cultivators of the new owners. If they did not like the grantee's terms, they moved elsewhere and they retained no rights in the land which they could assert to the prejudice of the grantee. Again, this grantee might be ousted in turn to provide for some other favourite. In those times, land was abundant, cultivators were scarce, and the cruel oppression to which the people had been long accustomed, sometimes drove them away to parts of the district where they could be comparatively free from the exactions of their oppressors."

Proprietors.

On the whole, the tenure of land suffered few violent changes under the former rulers. Where land was given in *thát*, the former proprietors, if in occupancy, at once sank to the position of tenants of the new grantee, who, moreover, by the custom of the country, was at liberty to take over one-third of the cultivation into his own hands as *sír*.

[1] To Government, dated 14th March, 1821. [2] To Government, dated 22nd January, 1817.

In the remainder of the estate, the right of cultivation rested with the original occupants, who were now termed *kháyakars* or occupants, as distinguished from *thátwáns* or proprietors, and paid their rent in *kút* or kind at an invariable rate, fixed at the time the grant was made. In villages in which the right of property and the right of occupancy was recognized as vested in the same individuals, the person who engaged with Government for the revenue had a right to demand the full extent of the *Malik-hissah* or State-share, supposing no fixed agreement had been made between him and his tenants, but such imprudence on the part of the latter seldom occurred. This description of village includes *nauábád* or those newly brought into cultivation, and lands cultivated by non-resident cultivators (*pahikásht*). The custom being to grant the proprietary right to the person who reclaimed the waste, as some return for his trouble and expense.

Tenants.

The resident tenants may be divided into two classes, the *kháyakar* and the *kaini* or *kharní*. The former, in addition to the land-tax which he paid in coin, used to pay to the proprietor under various names nearly a tenth more. Since the conquest, the *kháyakar* has by custom an hereditary right of occupancy at fixed rates, but cannot dispose of such right, though he may carry on his cultivation through a tenant-at-will. The rent of the *kháyakar* cannot be increased under any circumstances during the currency of the settlement, and so long as he pays his rent and the share of the village cess recorded against him he is safe from any interference.

Mr. Traill writes:—"In Páli and in Badhán and in other pargauahs wherever military assignments[1] were numerous under the Rájas, tenants of this description are common. Their origin may be easily traced back and may be referred to the fact of the former proprietors having emigrated or become extinct when the village was assigned to the ancestor of the present proprietors. The grantee was in consequence compelled to settle the land with new tenants who occupied as *kháyakars*. The *sayánas*, *kamíns*, and *thokdárs* with their relations are the proprietors of these villages. The point whether the occupant tenant be a *kháyakar* or *thátwán*, that is, proprietor of the land he cultivates, may be generally easily ascertained by an inquiry into the whence and how the tenant derives his title: if it be from an ancestor of the *thokdár* that he received the land, he is merely a *kháyakar*; if he plead a grant from a Rája, or purchase from a former proprietor,

[1] In these cases, the cultivators derived protection from the grantees and were so far better off than the rest that they had to please only one, instead of being worried by any official or soldier requiring their services.

the deed ought to be forthcoming or proved to have existed; if, lastly, he aver himself and ancestors to be occupants from time immemorial, such assertion can be proved by the evidence of adjoining proprietors. Should the tenant have the name of the village attached to his name as Bir Singh Mahta, that is, of Mahatgaon, &c., it may be at once determined that the tenant's claim to immemorial occupancy is well founded. The converse is not always the case: a proprietor of a village on settling in another still retains the name of his original village attached to him, which designation descends to his posterity. But by purchase, grant or gift, such individual or some one of his descendants may have acquired a proprietary right to a share in the village where they have settled. During the Gorkhâli Government, migrations of landholders from village to village were extremely common, and many of those emigrants still continue in the villages to which they then emigrated; by such voluntary absence they are deemed to have forfeited their hereditary claims in their original villages. Generally speaking, on such migrations taking place, the landed property of the emigrant was divided among the remaining sharers, and has been since enjoyed by them in full proprietary or has perhaps been transferred to others. After a lapse of twenty years and upwards, the claims of these emigrants to their original share are not admitted in the court unless it be stated and proved that on quitting their villages they entrusted their share to another, with the express engagement of resigning the same when called upon."

Sir H. Ramsay writes:—

"The *khâyakar* enjoys an hereditary though not a transferable right in the land he cultivates; and on the death of a father, the sons generally make a subdivision of the land, which not unfrequently reduces the holding of each so much that these *khâyakars* are obliged to cultivate other lands as *sirthâns* or tenants-at-will, or in *pahikâsht* in some distant village where they make their own terms with the proprietor. *Pahikâsht* cultivators of long standing have now the position of *khâyakars;* new ones are only *sirthâns*." In some villages *khâyakars* are alone in possession, and the proprietor residing elsewhere has no power to interfere with them or their land, waste or cultivated. A *ghar-padhân* realizes the demand and the proprietor's cess and pays over to him. In such villages, the *khâyakars* were formerly the real proprietors, but in some way the right became recorded in the *thokdâr's* name, and though every effort was made to right these wrongs at the recent settlement, it was not possible to do so in all cases, and special arrangements had to be made to remove what was an endless source of litigation."

Kaini.

The *Kaini* under the native government held more the position of a slave, or at least of a vassal, and was bound to the estate of his lord. Theoretically, they were obliged to give personal service in cultivating the proprietor's *sír*, or land which he keeps in his own hands, and in carrying his *jhanpan*, *dándi*, and baggage. Gradually, they have assumed the character of tenants permanently resident on their overlord's estate, and by long-continued occupancy have come to

be considered in the light of *khâyakars*, from whom indeed they differed in little, except in the nature of the rent to which they were liable. As a rule, they pay in *kût* or kind agreeably to former rates, which may be taken at one-third of the produce. In Garhwâl the fusion is almost complete, necessity compelling proprietors to give the most favourable terms to all occupants of the land. *Háliyas* or domestic servants (chiefly Doms), were still found in 1840 in all the principal estates. They were kept to perform all the labour of the fields required on the private farms of the landholders. The *sirthán* or tenant-at-will pays *sirthi*, but no personal services are required from him.

New tenants.

The difficulty experienced in getting new tenants should the old ones leave is alluded to by Mr. Traill in the following words:—

"From the facility with which new locations are here obtainable, the habits of the cultivators are extremely unstable and migratory. Vacancies arising from desertions are not readily filled by new tenants, while the general poverty of the *málguzárs* and tenantry renders them incapable of meeting from their own funds the additional burthens entailed by such desertions. In these cases the lease would be thrown up, and remission in the demand would be indispensable to save the village from total desertion; at the same time no advantage could be taken of the growing improvement in other villages. It may be doubted whether the *málguzárs* in these Districts would willingly engage for so long a period, unless the tenants of their respective villages should be considered as parties in the engagements, and remain bound for the same term. Under the Gorkhâli government, when a fixed village assessment was promulgated, the above principle was fully recognised, and the claim of the *málguzár* followed his tenant to wheresoever he might migrate."

In these remarks both Mr. Batten and Mr. Beckett agree and the former adds—

"In Garhwâl, owing to the comparatively small value of land, the scantiness of population, and the almost entire dependence for their position and wealth, even of the most considerable landholders, (as for instance the Bhartwâl family in Nágpur and the Aswâl family in Sila), on the actual influence which they may happen individually to possess over the agricultural communities, and not on any nominal legal rights—the enforcement of which, even if possible, would soon leave the claimants without a tenantry, and would only enrich their neighbours—hardly one estate, with the exception of the *nauábád* estates, could be correctly entered under the head of *pure zamíndári*; while the class of tenure called imperfect pattidári is found in some parts of the district to exceed in numbers the pure *bháyachára* tenure, which again exclusively prevails in other parts."

When a share in any estate may lapse from death or desertion, it is divided among the remaining proprietors, who become answerable for its assessment; but

this responsibility is, generally speaking, far from being deprecated, as the landholders are for the most part anxious to enlarge their petty tenures; as a precaution to prevent such a contingency from becoming individually burthensome, the small hamlets and parent lands are now leased with the *pahikásht* village to which they properly attach. The village revenue is apportioned on the several shares, agreeably to the nominal interest possessed by each in the estate. If any sharer claims an abatement on the ground of deficiency in the portion of land actually in his possession, a measurement takes place, and a record is made of the quantity of land found in the occupation of each proprietor, agreeably to which the future cess is regulated, but without retrospective effect. From damages by mountain torrents and from gradual encroachments on the shares of absentees, inequalities of this kind are pretty general, and applications for measurement frequent. Pleas for abatement on the grounds of inferiority in the quality of a share can very rarely arise, as each individual share comprises its due proportion of every part of the village, good and bad. This class, the *thátwán* cultivators, pay on a general average about one-fifth of the gross produce to Government. The share of the gross produce, as enjoyed by the different classes of cultivators above enumerated, may be summed up as follows :—

Thátwán cultivator ...	...	...	...	80	per cent.
Pahikásht tenant ...	...	...	...	75	„
Khayakar „ ...	...	...	...	70	„
Kaini „ ...	...	...	...	60	„

Tenures in Garhwál.

Mr. Beckett writes thus concerning the tenures in Garhwál in the report on the current settlement there :—

"The tenure question has undergone many changes since the introduction of British rule in Garhwál. At first, *thokdárs* and *sayánas* were the prominent characters. They assumed to some extent the position which had been held by various parties who under the Government of the Rájas and of the Gorkhális had been responsible for the land-revenue or who had held the land free of revenue. Mr. Traill recorded his opinion that—

"Three-fourths of the villages were wholly cultivated by the actual proprietors of the land; and that of the remaining fourth, the right of property and occupancy was vested in the same individuals. Since Mr. Traill's Report was written (1824), thousands of acres of jungle have been reclaimed, and the proprietary class has consequently increased. The Garhwál settlement may, therefore, to a great extent, be considered a peasant settlement, as individuals only pay their quotas of revenue due, plus cesses and land-revenue. Where hereditary tenants occupied land, they had, during the past settlement, paid small fees, such as one rupee on the marriage of a daughter, a leg or breast, or both, of every goat killed, and other indefinite cesses which caused great litigation. When ill-will grew up between a proprietor and his tenants, the former tried to ruin the latter by perpetual suits for perquisites, and the tenant continued to deprive him of his rights by trying to prove that the proprietor had received all that he was entitled to. These perquisites were very well when the people were quite uncivilised and required the support of a man more intelligent than themselves. Practice has proved that these cesses could not now be upheld, and they have been commuted

to a payment of twenty per cent. on the assessed land-revenue, which gives the proprietor more than he was ever entitled to demand; while without adding to his former actual payments, it makes the tenant safe against all irregular indefinite demands. The hereditary tenant is called *kháyakar* in Garhwál; he holds a hereditary but not a transferable right, though he may sub-lease his land to a tenant-at-will. *Pahikásht* or non-resident cultivators have hereditary rights not transferable and are protected similarly to the *kháyakars*. The *sirthán* or tenant-at-will has no permanent rights whatever and his holding is not entered in the record-of-rights; all other rights are entered. Tenants-at-will are rare in Garhwál. *Kháyakars* sometimes cultivate in *sirthi* a field or fields adjoining their own."

Tenures in Kumaun.

The incidents connected with the occupation of land were such under the former governments as gave little encouragement to industry or enterprise. No one knew when he might be reduced to the position of tenant in the land that he or his ancestors had wrested from the forest, and any sign of comfort in a dwelling was certain to cause an increase of the irregular burthens to be borne by the people. As observed by Sir H. Ramsay, "this state of government for a number of years took the spirit out of the people, and they were so accustomed to obey those immediately over them that even those who had not been ousted became quite accustomed to obey the *thokdár* as if they were his slaves." As a rule, such was the state of the country at the conquest. Traill had to make use of the *kamíns*, *sayánas* and *thokdárs* for his earlier settlements, but at the first triennial settlement he took, with few exceptions, the engagements, village by village, from their own *padháns*, a procedure that was completed and followed at the second triennial and all subsequent settlements.[1] But in these settlements, the people had recovered so little that the lease was often held to include the proprietary right. As the country prospered, the people began to feel that they had rights, and that Government, if they only knew how, would protect those rights, so that by the time of Mr. Batten's settlement in 1842 the more wise knew how to avail themselves of the ignorance or apathy of their brethren to have themselves recorded as sharers (*hissahdár*). Mr. Batten in his settlement was hampered with the charge of the entire civil and criminal work of the district and had little assistance. He had, too, to commence a record novel to the people and with bad material and worse instruments as a whole than are usually met with. The

[1] To Government, dated 14th March, 1821.

consequence was that, after the twenty years' settlement, the courts were simply flooded with cases regarding rights of occupancy and proprietary claims. These suits sharpened the wits of the people, who, before the end of the settlement, came to know from experience what each of the ordinary terms, sharer, occupancy tenant and tenant-at-will intended, their rights and liabilities. These distinctions were merely nominal in Mr. Traill's time, for then, in most parts of the district, the cultivator had it very much his own way, owing to the smallness of the population. At Mr. Beckett's settlement, population had considerably increased; good arable land had become scarce, and the cultivator was consequently not of such paramount importance. Every one, too, desired to be recorded as a proprietor. "The old generation had passed away: the existing one could not realise the position of their ancestors half a century previous. It was, therefore, very difficult work to determine the real position of many who claimed under Mr. Traill's settlement, the measurement book of 1823, the *phard-phant* or record of Mr. Batten, decrees of court, or were relations of those who claimed on those grounds." Mr. Beckett endeavoured to put each one in his right place, and where dissatisfied they were referred to the regular courts.

Statistics, proprietors, tenants.

In the 6,352 villages in Kumaon there are 94,924 proprietors, of whom 49 are Europeans and 188 Musalmáns. The remainder are Hindus, of whom 29,632 are Brahmans; 59,570 are Rájputs; 1,370 are Baniyas and 4,115 are Doms. There are 36,622 *kháyakars* or permanent tenants, of whom 35 are Musalmáns and the remainder Hindus. Amongst the Hindus 7,427 are Brahmans; 19,437 are Rájputs, 604 are Baniyas and 9,119 are Doms. Of the 6,352 demarcated villages, only 4,437 have inhabited sites and the remainder are cultivated by the people of other villages in *pahikásht*. Of the total number 3,060 are cultivated solely by the proprietors; 2,727 by proprietors aided by tenants; 543 by permanent tenants only and 22 by tenants-at-will only. The distribution of the assessable area amongst each class of cultivators in each parganah may be gathered from the following table compiled from the settlement records :—

Parganah.	Number of—		Area in bísis in possession of—				Villages.	
	Proprietors.	*Khâyakars.*	Proprietors.	Tenants-at-will.	*Khâyakars* and *sirdhâns.*	Padhâns as *Padhânchâri.*	Coparcenary.	One proprietor.
			Rs.	Rs.	Rs.	Rs.		
Bárahmandal ...	16,036	5,002	31,004	5,394	3,889	64	42	31
Chhakháta ...	1,332	622	3,130	653	778	18	4	4
Chaugarkha ...	8,142	3,148	16,509	3,943	3,953	86	117	35
Dánpur ...	7,197	1,065	21,234	2,909	1,613	63	115	92
Dárma ...	1,353	2	2,244	206	1	...	6	2
Dhaniyakot ...	2,267	1,257	4,395	931	1,213	26	9	10
Dhyanirau ...	4,582	1,749	9,393	2,363	1,949	20	10	3
Gangoli ...	6,989	390	20,441	3,389	437	20	185	120
Juhár ...	4,821	235	5,211	850	325	6	57	8
Káli Kumaon ...	10,838	3,809	31,173	5,596	2,951	10	60	43
Kota ...	887	219	2,111	351	388	15	5	12
Páli ...	17,025	13,418	27,356	4,933	31,085	599	136	146
Phaldakot ...	3,466	1,423	7,545	980	1,320	23	9	3
Rámgár ...	1,621	114	2,249	253	102	7	5	1
Síra ...	1,677	374	4,366	1,462	340	4	43	35
Shor ...	3,459	1,553	10,353	2,019	2,088	17	66	46
Askot ...	222	717	694	1,013	2,482	1	6	128
Sadabart ...	3,011	1,525	4,698	368	1,367	18	12	1
Total ...	94,924	36,622	2,04,106	37,563	56,181	997	887	720

These figures with the preceding explanations should give a vivid picture of the distribution of landed property in Kumaon. The proprietor has an average holding of 2½ *bísis* whilst the *kháyakar* has only 1½ *bísis*. Many of the latter have by repeated subdivisions such an infinitesimal share that they are obliged to cultivate in other villages (*pahikásht*) or go in for service as litter-bearers, wood-cutters and coolies.

Condition of the people.

The state of the peasantry has changed for the better since Mr. Traill's time. Cultivators are numerous in the more highly tilled parts and good arable land is scarce. The hill man is very much attached to his home and now few show the migratory spirit so observable in Mr. Traill's time. Sir H. Ramsay writes :—

"My experience is that villagers will put up with great hardship in regard to revenue rather than give up their village. If a tiger or sickness carry off shareholders, the remaining few will never give up if they can pay the revenue by any means. Some of the Káli Kumaon people are, however, exceptions to this rule. There they are headstrong, obstinate, and spiteful. If they had a *thokdár* or *padhán*

whom they disliked, a whole village would rather resign and go elsewhere than be compelled to pay him the recognised dues. Excluding revenue-free holdings and those of some of the more powerful proprietors whose ancestors—very influential men when Kumaon first came under British rule—had at once assumed the position of proprietors, which they steadily maintained and improved on every opportunity, it may be said that the proprietary right is vested in those whose ancestors occupied the land at the time the province was taken from the Gorkhális and who have advanced the cultivation from its former backward state to its present prosperity. Or in another class who, by their influence and money or by their own labour, have changed the forest into prosperous villages."

Many years ago former revenue-free grantees, whose rights had been ignored by Mr. Traill, defrauded many of the villagers of their rights, and so bound them down by agreements and decrees that at the settlement they could claim little more than permanency at tenants-at-will rates. A few villages have passed into the hands of usurers at sales by auction, but with these exceptions the proprietary right may be said to be in the hands of the descendants of those who held it in the days of the Rájas and the Gorkhális.

"Where revenue-free rights which had been undisturbed since the conquest existed, they invariably include proprietary rights and the cultivators are only *kháyakars*. Where proprietary rights which had been recognised at the twenty-years' settlement or rights of the same kind acquired by purchase existed, they could not be interfered with; but with these exceptions, the cultivators have been recorded as the owners of the land they occupy, while the permanent tenants can never be disturbed or interfered with by the enhancement of rent. In fact, these tenants are in all respects equal to proprietors with the exception that they cannot sell their holding, and they pay a small sum in addition to the quota of revenue due from the land recorded in their names."

Waste lands.

The subject of rights to waste land has been fully noticed under Garhwál. Here I shall quote from the valedictory report (1884) of Sir Henry Ramsay on this subject:—

"I have observed a tendency of late years, as land has become valuable, of proprietors to imagine themselves *zamíndárs* with *zamíndári* rights attempting to appropriate all waste and forest land within the boundaries of their villages. It should be checked because it would lead to serious complications and retard prosperity. Some village boundaries contain upwards of fifty square miles, and Government has an equal right with the village to all jungle land, with power to appropriate any that may be required; while the villagers are allowed to increase cultivation if Government do not object. This assumption on the part of proprietors is of very late date, and on every occasion when brought to my notice I have refused to recognise it."

Revenue-free grants.

On the British occupation, it was found that considerable sum of money and tracts of land had been granted by the Nepálese to temples and individuals, and no small portion of the work of settlement was the investigation of these revenue-free tenures. The broad principle on which the greater portion of the claims was decided, was that only those for which grants of the Chand Rájas of Kumaon or grants of the Nepál Rájas under the red seal, were forthcoming should be upheld. Besides these, other grants were made from the proceeds of the transit duties, and on the abolition of those duties the payment was continued pending the results of an investigation into the character and validity of the grants.[1] In 1819, Mr. Traill forwarded a list of lands and villages held in assignment to temples in Kumaon for religious purposes,[2] known under the name of *gúnth* and those assigned to individuals and known as *muáfi*. The *gúnth* villages then numbered 973 and contained one-fifteenth of all the arable land in the province, and the *muáfi* villages numbered 175 with an area of 3,000 *bísis* or one-seventieth of the total culturable area. The largest revenue-free estate held by an individual was valued at a revenue of Rs. 1,000 a year, but many of the old estates and grants had been resumed by the Nepálese, and by 1823, some 150 villages had been added to the revenue-roll, the greater number of which had been surreptitiously concealed by the connivance of the executive officers of the Nepálese government. The pensions chargeable on the revenues of the province amounted to Rs. 21,670 a year, of which Rs. 2,152 were from former governments, in perpetuity to religious establishments, and Rs. 348 for life to individuals. Rs. 9,600 were granted for life to individuals by the British Government and Rs. 9,570 as military invalid allowances. At Mr. Batten's settlement, the *gúnth* amounted to Rs. 13,455 *bísis* in Kumaon alone, of which 2,230 *bísis* were within villages assessed to revenue and the remainder in villages altogether free of revenue. Of these, parganahs Katoli and Mahryúri belonged to the *sadábart* grants, of which an account has been given under Garhwál. The *muáfi* lands comprised 2,913 *bísis*, of which 531 formed part of revenue-paying villages and the remainder were contained in 93 separate villages. These grantees

[1] To Government, dated 19th June, 1816. [2] To Board, dated 20th May, 1819.

were for the most part Brahmans of the Shástri, Joshi, Pant, Pánde, Tiwari and Upreti clans, who still furnish a great proportion of the officials in Kumaon. The *gúnth* and *muáfi* grants in Kumaon were closely examined in 1855-56 and Government sanction was obtained to all that were upheld. The result at the settlement was that there were 444 *gúnth* or temple holdings, which if assessed to revenue would yield Rs. 8,447 per annum on 9,476 *bísis* of cultivation. The *muáfi* grants are 92 in number aggregating 3,297 *bísis*, which if assessed to land-revenue would yield Rs. 3,412 per annum, but these are exclusive of the *sadábart* pattis above mentioned.

Village administration.

The administration of each *mahál* or estate separately assessed to revenue, and which may consist of one or more villages or hamlets, rested with the *padhán*. He was the ministerial executive officer of the village, and is entrusted with the collection of the land-tax from his coparceners, and with the supervision of their simple police arrangements. The fiscal officers intermediate between the *padhán* and the State, and known as *kamíns*, *thokdárs búrhas*, and *sayánas*, at one time played an important part in the revenue administration of these districts, and their existence is still felt in the levying of certain dues which belonged to their offices now partly abolished. The land assessed to revenue was under the Gorkhálí government assigned as *jáedád* for the support of troops, and the collection of the revenue was intrusted to the commandants of the different regiments. As these officers, from their military duties, could seldom be present for any length of time in their respective assignments, they were under the necessity of employing deputies; and, as the most simple and economical plan, intrusted the details of assessment and collection to some one of these principal landholders whom they made responsible for the amount of the revenue assessed on the assignment. Hence arose the middlemen that we have mentioned both in Kumaon and in Garhwál. Neither *kamíns* nor *thokdárs* possessed any rights in the soil over which they exercised authority beyond what they derived from their appointment.[1] Their office was to collect from a certain number of villages the fixed demand and for which they became themselves answerable. They retained their situation only

Kamíns.

[1] To Government, dated 22nd January, 1817.

during pleasure, and under the former governments appear to have been changed almost every year. They were, however, almost invariably chosen from amongst the principal *padháns* of the parganah, for a portion of which they engaged; and in consideration of the local influence possessed by them, the choice usually fell on one of the family of the old *kamíns*. The *kamíns* in turn appointed one of the proprietors of each village under the designation of *padhán* to levy and account to them directly for the demand on his village. These again were removable at the will and pleasure of the *kamín*. The influence, however, once obtained in an office of this importance generally led to its continuance in the same family even when the individual holder was changed, and in some instances the *kamíns* themselves succeeded in obtaining the grant on the usual terms, an arrangement which led to the appointment of under *kamíns* such as are found in some parganahs. As a consideration for the responsibility entered into by the *kamíns*, they received under the name of *kamínchári* either a small portion of land to hold free of revenue, or a remission of revenue, but at no specified or fixed percentage. They were also authorised to collect from each village in excess of the State demand a small gift or due (*nazarána*) varying in its rate in different parganahs from three annas to one rupee per village. They were also entitled to some trifling dues on all marriages occurring within their circles.

Padháns.

The *padhán* like the *kamín* derived no rights from inheritance. He simply collected from his coparceners and tenants the demand and passed it on to the *kamín*, and as a compensation enjoyed dues of an exactly similar nature. He held one field free of revenue and received certain perquisites[1] at marriages and births, which were called *padhánchári*. The nomination of the *padháns* was for the most part vested in the *kamíns*, but as with themselves the tendency was to keep the office in one family and in some cases the right to act as *padhán* became hereditary. No gradation of rank existed between the *padhán* and the cultivator. As the country from its mountainous character presents within a large area but a small portion of culturable land, the villages are therefore small and only occasionally consist of more than

[1] *Hak padhánchári* was first recorded at the triennial settlement. To Board, dated 14th March, 1821.

fifteen houses, or yield a revenue of more than Rs. 150 a year. Taking the two districts, the average number of houses is about five, and the average land-revenue less than twenty rupees a year. Such small communities cannot afford from their poverty a constitution similar to those that exist amongst the village communities of the plains.

Abuse of power.

The power granted to the *kamíns*, as is the natural result in similar circumstances all over the world, was abused by them. Gradually, finding themselves uncontrolled and the power of distributing the patti assessment over each village entirely in their hands, to arrange as they liked, they set at nought the village assessment directed to be formed by the Nepálese Government. This was not difficult, as there was no one resident on the spot who had the power or the inclination to enforce the orders of the supreme power. The ruin of the *padháns* ensued, and they were severally ousted from their situations, as soon as former extortions left them unable to comply with further demands. By the responsibility abovementioned many of the lesser *kamíns* and *thokdárs* also were ruined and sunk into obscurity, but this circumstance only tended to increase the power and means of the other *kamíns*, to whose pattis the villages of the ruined landholders were immediately added. As already noticed, the proprietary right of only a few villages is generally vested in the *kamín;* on the remaining villages included in his patti he has no claim except for his dues. The first blow against the usurpation of the *kamíns* was struck at the first triennial settlement when the village proprietary body was, as a rule, admitted to engagements. But even at the second triennial settlement, in 1821, it was found that the remembrance of their former power enabled the *kamíns* to extort with impunity, on various pretences, sums of money from the village *padháns* in excess of the land-revenue; until his exact dues were eventually reduced and he was expressly forbidden to interfere in the collection of the revenue in any villages not his own property.

British occupation.

Such was the machinery for collecting the revenue found at the British occupation of Kumaon. Mr. Traill transferred this duty to the *padháns*, and the *thokdárs* were limited to interference in matters of police. In lieu

of the former numerous dues, certain fixed fees were established. As ministerial officers, they were removeable for neglect or misconduct, but in consideration of the influence possessed by the families from which they had been selected, the office was nominally continued to one of its members. They were required to report offences and casualties, also the deaths of individuals dying without heirs on the spot, together with an account of the property left unclaimed by such individuals. The search for stolen property and the seizure of offenders devolved on them. They were also expected to collect the coolies and supplies (*bardáish*) indented for on the public service from the villages under their charge, and they assisted at all inquests made by the patwáris within their pattis.

Settlement of 1843.

At Mr. Batten's settlement in 1840 these *thokdárs* were of two kinds :—

"First those who were merely entrusted with the charge of the police in a certain number of villages, who were paid by a fee of one rupee on the marriage of the daughter of each village *padhán*, and a leg of every goat killed by the *padhán*s within their jurisdiction, and who, if they could prove the receipt of such a payment from the commencement of the British rule were entitled by the law to receive dues through the *padhán* from the village, amounting altogether to about three per cent. on the land-revenue. Secondly, there were those *thokdárs* or greater *sayánas*, who were heads of the proprietary families, whose ministerial duties in reporting offences and casualties, were the same as those of the former class; but who, being descendants of great grantees and officers of the Gorkháli time, or that of the Garhwál Rájas, possessed much greater influence, who often, in the course of the different settlements, engaged with Government for whole sets of villages, sometimes for a whole patti (as in Kaurhíya and Síla) and whose remuneration for ministerial offices thus became mixed up with their *sayánachári* and *kissahdári* rights; and who often possessed decrees of court showing the proprietary division into shares of certain sets of villages between them and their relations, at the same time that the villagers themselves possessed their own *padhán*s, holding separate revenue engagements, but together with the villagers acknowledging the right of the *sayána* to receive a larger sum as *sayánachári* dues, than those granted to ordinary *thokdárs* in one or more of the villages included within the *thokdári* leases, those *sayána*s and their brethren possessed without opposition the lands, and the tenantry, though often hereditary and not removable at will, cultivated such portions only as might be assigned to them by the proprietor, and paid *kút* or a share of produce, commonly one-third or a moderate money rent called *sirthi*, and in some few parts of the country, chiefly towards the Tarái, a certain rate per plough; all these payments being exclusive of *bhet*, *dastúr*, *nazarána*, *ságpát*, and other offerings usually made to superiors in the hills."

Disputes as to rights.

During the settlement it was found to be a matter of difficulty in many cases to determine the position of the *thokdári* families. In places the *kháyakar* or occupancy cultivator often asserted his right to be recorded in the rent-roll as a sharer in the land and not unfrequently as *thátwán* or proprietor, and as such resisted the claims of any person to the proprietary right in the village, declaring the decrees of court and the ancient Gorkháli and Rájas' grants had merely reference to the position of the *thokdár* or *sayána* as the fiscal and judicial administrator of the district. As far as possible all the profits derived by the *sayána* were commuted to a fixed money payment, each village being allowed its own *padhán* or head-man who engaged with Government separately on behalf of the sharers Though originally a sort of land-agent managing the assignments made in favour of the military commanders, in process of time prescription gave the thokdár a colour of right which Government acknowledged and further made its enforcement legal.

Character of dues.

A few instances will show the character of the collections made by the *sayánas* and sharers (*hissahdárs*) in different parts of Garhwál, in addition to the land-revenue and which were commuted in 1840:—

In the village of Mangu-Kharnoli in patti Talla Nágpur the person who collected the revenue and made engagements with Government on behalf of the sharers (*málguzár*) had an assignment of two *bísis* (about two acres) of land and also received a *timásha* (five equal one rupee) on the marriage of every occupancy-tenant's daughter and a leg of every goat killed. *Hissahdári* dues consisted in the payment by each *kháyakar* to the sharer within whose share the *kháyakar* cultivated of four *timáshas* on the marriage of his daughter and a leg of every goat killed. The four sharers in the village also received from their *kháyakars*; one, 88 seers of rice and the same quantity of barley; a second, 84 seers of each grain; a third 72 seers of each grain and the fourth received 80 seers of each kind of grain annually in addition to the rent of the land. Owing to the relationship of the sharers there were no *thokdári* dues in this village. In village Bariyun in patti Sila the *thokdári* dues accrued from the payment of eight *timáshas* by each *kháyakar* on his daughter's marriage, a leg of every goat killed and a seer of *ghi* or clarified butter and a joint annual contribution from the village of one rupee as *nazarána* or present and sixteen seers of grain. There were no *hissahdári* dues distinct from these. The *málguzár* had three *nális* of land and received eight *timáshas* on the marriage of each villager's daughter, a leg of every goat killed and a seer of *ghi* in Sáwan. As the goats are usually killed at a temple and the officiating priest gets the head and breast, there is little left to the owner. In the small village of Sonwara Palla in patti Badalpur the *thokdár* received from

each sharer eight *timáshas* on the marriage of his daughter, a leg and rib of every goat killed and two *timáshas* annually as *nuzarána*, while the inhabitants made a joint annual contribution of 64 seers of grain. The sharer who acted as *padhán* received similar marriage fees from his co-sharers and similar dues on goats killed and also held ten *nális* of land.[1]

Abolition of duties.

As police officers the *sayánas* and *kamíns* were soon found to be worse than useless, and owing to their universal habit of letting off criminals for a bribe and their appointment taking away the village responsibility for the prevention of crime, on the joint representation of Sir John Strachey and Sir Henry Ramsay, then in charge of Kumaon and Garhwál, the *kamíns* were relieved of all police duties in 1856. At the revision of settlement in Garhwál, those who could not be upheld in their appointment were removed, while those who remained were paid, in lieu of irregular cesses, at the rates of three, six, and ten rupees per cent. on the Government demand, according to the nature of the rights established. This sum is entered in the record-of-rights and collected with the land-revenue and then paid over to the *sayánas*[2]. In his report on the current Kumaon settlement Sir H. Ramsay writes :—

"Since that time (1856) I have been compelled to change my views. The people have altered so much that it was absolutely necessary to retain *thokdárs* as far as possible to ensure the due performance of police duties on the part of *padháns*, and I saw that the abolition of the office of *thokdár* would be highly unpopular with the mass of the people. In the course of appeals I had to go through nearly all the claims to *thokdári* decided by Mr. Traill, and in my opinion the order which reduced their dues to three per cent. on the land-revenue was never acted on, except in the case of small *thokdárs*. The chief *thokdárs* never came into court, as in those times they made their cultivators do what they liked. At Mr. Batten's settlement the *thokdárs* in many instances recorded very heavy payments in the village papers. Others relying on their grants felt it unnecessary to record their dues at all."

It was accordingly determined with the sanction of Government that some of the more important men should receive ten per cent. on the revenue and some six per cent. as in Garhwál, on all villages in which their right to receive dues was ascertained at Mr. Batten's settlement, and that three per cent. should be given to all whose names were in *thokdári* leases if they were upheld amongst those who were descended from men in office at the con-

[1] This much is sufficient to show the general nature of these dues; for further details the reader is referred to J. H. Batten's Settlement Report, page 134.
[2] See Whalley, 39, 45; Batten II, S. R. 533; Beckett 10.

quest. These dues were deducted from the revenue of the village affected, so that no alteration of the assessment was necessary and the amount (Rs. 2,156) was paid really by Government.

Padhán.

The *padhán* is the *lambardár* or *málguzár* of the plains. As defined by Traill, he is the village ministerial officer intrusted with the collection of the Government demand and with the supervision of the police of his village and is remunerated with assignments of land (*padhán-khangí, jethunda*) or money: this remuneration is known as *hak-padháni, padhán-chári*. He collects the revenue agreeably to their several quotas from his co-sharers and pays also the revenue due from his own share. Uncultivated lands which may not have been divided amongst the sharers are also managed by the *padhán*, who accounts for the proceeds to his fellow-proprietors. There is no hereditary right or claim to the office, but, as a rule, the son succeeds his father, unless incapable from youth, or want of talent, in which cases the sharers are called upon to appoint another *padhán* from amongst themselves. As a rule, he resides in the village and is removeable for inefficiency, malversation or at the requisition of the majority of the sharers. In former times he was paid by dues leviable from the cultivators similar to those paid by him to the *kamín* or *sayána*, such as fees on marriages and portions of every goat killed in the village, grain, *ghi* and the like. These dues were the cause of much litigation, and the opportunity caused by the recent revision of the land-revenue has been seized to place these matters on a better footing. They have now been commuted to a money payment of twenty-five per cent. on the revenue. In regard to the appointment of *padháns*, the principles now adopted are that the *padhán* must be a shareholder in the village and, where possible, a resident. Where the *padhán* is a non-resident he appoints a *mukhtyár* or deputy and if he be sole proprietor he appoints a resident *kháyakar*, denominated a *ghar-padhán*, for the performance of police duties, who is always removable by the district officer. As few *padháns* as was possible, compatible with efficiency, were appointed in Garhwál, and the dignity of the office has been considerably enhanced. In Kumaon, as a rule, also only one *padhán* was allowed, but where the Mára and Phartiyál feud existed, one was allowed for each faction (*dharra*), or, where a large number of cultivating-pro-

prietors existed, one for each caste. Where *padhán-chári* land existed in sufficient quantity, that was the only remuneration allowed. Where there was not enough or none at all, five per cent. on the revenue was allowed from co-sharers. Under the old arrangements certain perquisites were demandable by proprietors from their tenants under the name *malikána*, which were much of the nature of the dues paid to *padháns* and *kamíns*. The perquisites of this class were commuted for sums equivalent to from one-fourth to the entire amount of the Government demand, to the great relief of all.

Kánúngos.

There are four kánúngos in Garhwál and five in Kumaon. They were formerly known as *daftaris*, and under both the Native and Gorkháli Governments performed duties corresponding closely to those of the tahsíldárs of the plains. They are thus alluded to in a grant made by Amar Singh Thápa in 1869 Sam. (1812 A.D) quoted[1] by Mr. Traill:—"Whereas Kázi Amar Singh has favourably represented that the said *daftaris* have been most zealous in the discharge of their duties, in conciliating the tenants, in collecting the rents, in recalling the cultivators who had fled to the plains, in restoring the cultivation and population of deserted villages, in preparing and keeping up the revenue accounts and records, and in obedience to orders, we accordingly authorize them to collect the dustoor duftree from the lands included in the assignments to three battalions and three Captains, according to the receipts, and in excess of the revenue of the said lands." On the British occupation,[2] the office of kánúngo in Kumaon was found divided amongst two families, one of Chaudhris and one of Joshis; the former was represented by Mána and Náráyan and the latter by Ratanpati, Trilochan and Rámkishan. The parganahs had not hitherto been distributed amongst them, and the duties were performed jointly, each being aided by deputies known as *likhwárs*. Practically, however, the Dwárahát Chaudhris furnished kánúngos for Páli and Bárahmandal; the Dhaniya Joshis, one for Shor and one for

[1] To Commissioner, dated 2nd April, 1816; to Board, dated 18th October, 1816; from Board, dated 19th January, 1819; to Board, dated 9th March, 1819; from Board, dated 11th May, 1819. [2] Under the former Governments these men exercised considerable authority. Ráma and Dharni, the old Garhwál kanúngos, were executed by the Gorkhális for holding traiterous correspondence with Sudarshan Sáh. Their heirs received a *jágír* worth 1212 *Gk.* Rs.=909 *Fd.* Rs.

Chaugarkha, and the Jijhár Joshis, one for Káli Kumaon; and all acted generally as collectors of the land-revenue, writers and record-keepers. They were formerly remunerated by lands held in tenure of service and also received half an anna in the rupee on the revenue, from which they paid their deputies in each parganah to look after the collections and the cultivation. These lands were frequently resumed and again restored by the former Governments. The *nánkár* lands were assessed[1] at Rs. 1,979 in 1819 and were brought on the revenue-roll and a monthly allowance of twenty-five rupees was granted instead to each of the kánúngos. The first patwáris were entertained and paid from the surplus revenues of these resumed lands, and as the revenue increased other patwáris were appointed who performed duties somewhat similar to those formerly intrusted to the kánúngos and their deputies. The latter, however, appear merely to have kept up lists of villages and the names of headmen or *padháns*, whilst the patwáris have gradually become a sort of local sub-tahsíldár. The office of kanúngo was considered hereditary so far that the succession remained in one family, but both the former Governments and the British authorities have always exercised their discretion of selecting the most capable member of a family for the office without reference to claims of birth or seniority. In 1829, the kánúngos were invested with powers to try civil suits, but these were withdrawn in 1839 and now but little use is apparently made of their services beyond such miscellaneous duties as the Assistant Commissioner can assign them. The present men are, however, better educated than their predecessors and can be profitably employed in keeping up the settlement record like their brethren in the plains.

Mirdahas.

There were no officers of the description known as *mirdahas* in any part of these hills: the only class of persons at all similar are the *meldárs*, who were found in some of the larger parganahs; these may be called the hereditary tahsíl chaprásis or messengers of the parganah in which their ancestors were originally fixed as such by former Rájas and where they then received grants of lands in payment of their services. These lands were resumed under the last Government;

[1] To Government, dated 27th August, 1819; to Government, dated 21st May, 1821; from Government, dated 1st January, 1819; from Government, dated 19th October, 1819; from Government, dated 23rd July, 1822.

the *meldárs*, however, being allowed to engage for them as proprietors: some were employed as temporary peons, a practice which was for some time followed in Páli where their services were accepted in the collection; and while on such duty they were entitled to their food from the villages to which they were sent, agreeably to ancient usage; no *talabána* or process-fee was in such cases authorized or levied; many of the *meldárs* have been permanantly brought on the establishment as paid chaprásis of the various tahsíls, and in this manner their services are utilised.

Patwáris.

Under the former governments, village or other patwáris or accountants were unknown, but in large parganahs like Ganga Salán, Badhán and Nágpur Garhwál there were local deputies of the daftaris or kánúngos called *lekhwárs* who performed similar duties. They may be considered under-kánúngos, as from the extent of their charge, the whole accounts of which were kept by them, it was impossible for them to enter into any minute village detail. In other pattis, these accounts were kept by the *kamín* or *sayána*. The *lekhwárs* were remunerated from the half anna cess on the revenue collected by the *daftaris*. On the abolition of this cess at the conquest, the *lekhwárs* were left without employment and no one was appointed to perform the duties previously entrusted to them. On settling the resumed kánúngo lands in 1819, Mr. Traill found a surplus of nearly Rs. 500, which he recommended should be devoted to the establishment of patwáris, at a salary of five rupees a month, in nine of the principal parganahs and that the principle should be recognised that any surplus from these resumed lands should be utilised in the extension of the measure to the remaining parganahs.[1] Both of these proposals were sanctioned by Government. At the second triennial settlement, it was found that without the aid of the patwáris not one-fourth of the newly reclaimed lands could have been brought on the revenue-roll and the evident advantage which had accrued from their appointment recommended the extension of the measure to three other parganahs.[2] The records of the kánúngos were imperfect and incomplete as those officers had always remained at head-quarters, and, for the local knowledge of the assets and

[1] To Board, dated 27th August, 1819; from Board, dated 19th October, 1819. [2] To Board, dated 21st May, 1821; to Board, dated 22nd August, 1822; to Board, dated 15th August, 1825.

capabilities of each village, trusted to the reports of their deputies who resided in the parganahs. By the absorption of the smaller parganahs in the larger ones to which they formerly belonged, the number was reduced to fourteen and the arrangement now made provided one patwári for each of the larger parganahs. In 1825, a further addition was made, the cost of which was met by a reduction of the tahsíl establishment, and in 1830, the measure was extended to the whole province. At this time, there were over seven thousand estates on the revenue-roll in the two districts. In many of them the land-revenue was less than five rupees a year and the proprietor was the only cultivator. To ensure the collection of such a detailed assessment, peons had hitherto been stationed in each parganah to look after the cultivation and collect the revenue, so that the new measure was only the substitution of what may be called a better class of peons, without the official title, for many educated and respectable persons were found ready to undertake the duties of a patwári who would have considered it a degradation to wear the badge of a peon. Thirty patwáris were added to the establishment and the expense was met by a corresponding reduction in the number of peons.[1] The establishment now consisted of sixty-three patwáris, giving on an average one to every 120 villages and to every Rs. 3,300 of revenue, and costing at Rs. 5 a month Rs. 315 a month. Their duties were first the collection of the revenue; second, the measurement of villages under instructions from the court; third, the prevention of desertion on the part of the cultivators in a village by adjusting quarrels and reporting the existence of such quarrels and desertion to head-quarters; fourth, cases of police, apprehension of offenders, report of crimes, casualties, suicides and intestate estates, through the tahsíldár. They are removable for inefficiency or misconduct, and may be transferred from one circle to another.

Previous to Mr. Beckett's settlement there were 42 patwáris in Kumaon each of whom received five rupees a month. These were increased to 91 out of the ten per cent. cess on the revenue imposed at settlement to pay for district post, education and patwáris. Those wholly paid from the cess obtain ten rupees a month, whilst an allowance of five rupees a month from the same source

[1] Board, dated 10th February, 1830.

is given to all the old patwáris who have qualified in survey work. Their circles average now about 50 square miles with a revenue of Rs. 2,500 a year. In addition to ordinary revenue and police duties, they now have to measure land, execute decrees of the civil court for possession, look after the repairs of roads, arrange for supplies and coolies and report regularly to the head-office through the district post. Their duties with reference to the police have been noticed elsewhere, and altogether they are a most useful and efficient body of public servants.

The criminal administration, during the earlier years of British rule gave, little trouble in Kumaon. In 1816, Mr. Traill[1] writes :—

Criminal administration.

"The small number of offences committed in this province has rendered the criminal police an object of secondary consideration, accordingly no separate report has hitherto been submitted to Government on the subject. Murder is a crime almost unknown throughout this province, and theft and robbery are of very rare occurrence—a remark which applies equally to all offences the ultimate cognizance of which would by the Regulations rest with the Court of Circuit. From the period of the introduction of the British Government into this province the persons confined for criminal offences here have never exceeded twelve—the greater part of whom have always been natives of the plains. The number of prisoners at present in jail amounts to seven of which four are natives of the plains. Under the late Government[2] the punishment of offences of a petty nature formed a source of revenue, all cases of infringement of caste, assault, fornication, adultery, abuse, &c., were made subject to fines and the cognizance of such offences and levy of the fines were farmed out in separate divisions or districts to the best bidder. Crimes of a serious nature, including murder, theft, to a large amount, killing of cows, &c., were reserved for the decision of the principal *bhárádárs* present in the province."

In July, 1817, however, Regulation X of 1817 was enacted to provide for the trial of persons charged with the commission of certain heinous offences in the Kumaon district and other tracts of country ceded to the Hon'ble East India Company by the Rája of Nepál. It applied to Dehra Dún, Kumaon and Garhwál, Jaunsár-Báwar Púndar, and Sandokh and other small tracts of country between the Jumna and the Satlaj. By it a Commissioner was appointed for the trial of heinous offences subject to a report to the Court of Nizámat Adálat, who passed the final sentence which was then carried into effect by the local officer. The question

[1] To Government, dated 15th February, 1816. [2] See Gaz. XI, 626.

regarding the extradition of criminals with Nepál also arose and was settled on the basis that only those charged with heinous offences and for whose arrest the warrant afforded *primâ facie* evidence that they were guilty of the offence imputed, should be delivered to the Nepálese authorities; otherwise, general usage did not recognize the principle of apprehending or surrendering to a foreign power petty delinquents seeking an asylum within our dominions.

British administration.

Writing in 1822, Traill[1] remarks that during the previous year there were 65 criminals confined in the jail, of whom only six were charged with heinous offences, and only in three cases were the offenders able to escape detection. Affrays of a serious nature were unknown and even petty assaults were unfrequent. Many robberies occurred in the tract along the foot of the hills, but they were perpetrated by people from the plains who retired there with their booty. The offence of adultery was very common, but it seldom formed a subject of complaint in court unless accompanied by the abduction of the adulteress. Infanticide prevailed amongst certain Rájput families in Garhwál, but these fled from the district on its conquest by the Gorkhális, and since then no cases had occurred. The suicide of females was and is still common.

"The commission of this act," Traill writes, "is rarely found to have arisen from any immediate cause of quarrel, but is commonly ascribable solely to the disgust of life generally prevalent among these persons. The hardships and neglect to which the females in this province are subjected will sufficiently account for this distaste of life as, with a trifling exception, the whole labor of the agricultural and domestic economy is left to them, while food and clothing are dealt out to them with a sparing hand. Suicide is never committed by males, except in cases of leprosy, when, as in other parts of India, the leper sometimes buries himself alive. Deaths from wild beasts are very frequent; they probably do not fall short of one hundred annually. Complaints against individuals for sorcery and witchcraft were very common indeed; an infatuated belief in the existence of such power, pervading the whole body of the inhabitants of this province. All cases of unusual or sudden sickness and mortality are immediately ascribed to witchcraft, and individuals are sometimes murdered on suspicion of having occasioned such calamities."

Applications to the court on the subject of caste were numerous, due doubtless to the fact that under former governments,

[1] To Government (Political Department), dated 16th May, 1821: Stat. Rep. p. 42.

the cognizance of cases involving deprivation of caste was confined to the government court. This description of the people during the earlier years of our rule is confirmed by the testimony of an officer who visited Kumaon charged with the special duty of inquiry into the administration of justice.

Reforms.

Mr. Glyn was deputed to Kumaon in 1822 to hold a sessions of jail delivery and to report on the police and criminal administration. His report[1] is full and interesting and confirms the account already given by Traill. There was a general absence of heinous crime of every description, and the few gang robberies that were reported, took place in the strip of country lying along the southern frontier, and more particularly within the jurisdiction of the authorities of the plains districts. Disputes regarding women were the most fruitful cause of complaint, and the ready attention given to these cases by the authorities without doubt prevented the occurrence of more serious crime. In consequence of suggestions made in this report it was ordered that forced labour for the carriage of goods should cease, and that inquests should be held in all cases of sudden death, a precaution rendered necessary by the number of deaths reported as due to the attacks of wild animals, snake-bites, suicides and accident. In 1824, the number of deaths attributed to these causes was 237. Attention was also drawn to several other matters requiring reform. In the resolution on the report made by Mr. Glyn, the Government of India also bear testimony to the success of Mr. Traill's administration and the entire fulfilment of the sanguine anticipations of his peculiar fitness for the important duties he then fulfilled;[2] and in 1825, in consideration of the judgment and zeal with which he discharged the duties of Commissioner, he was authorised to draw the full pay of a Judge and Magistrate.[3]

Adultery: slavery.

Amongst the customs of the country which were now abolished two deserve special mention: the right to slay an adulterer and the sale of human beings, children and grown up persons, as slaves. The former was prohibited by a Resolution[4] in 1819 which runs.

[1] From Nizámat Adálat, dated 24th January, 1824. [2] Government, dated 19th December, 1822. [3] Government, dated 17th August, 1825. [4] 26th August,

"Whereas it appears that, agreeably to the former usages and customs existing in Kumaon, it was allowable to the husband of an adulteress to take the life of the adulterer * * *. Be it known that such practice is hereby declared unlawful and is prohibited accordingly: and it is hereby ordained that any person who, in opposition to this prohibition, shall hereafter take the life of an adulterer, will, on conviction before a court of justice, be liable to suffer death. Be it known, however, that according to the laws of the British Government a husband is entitled to redress against the adulturer on application to the Commissioner: such adulterer being liable to punishment for his offence on conviction before a court of justice."

This will explain the prevalence of complaints of this nature in the local courts and the necessity there was for attending to them to prevent graver crimes.

The sale of children and grown up persons which had arisen during a long period of misrule and oppression had formally received the sanction of the previous governments who levied a duty on the export of slaves. This duty was abolished at the conquest, but the practice itself was too deep-rooted to be at once eradicated. In 1822, Mr. Glyn wrote[2] to the Commissioner:— "The practice of selling children and grown up persons by inhabitants of this province amongst one another or into the hands of strangers is still in a mitigated degree continued, though I am aware of your anxious endeavours to abolish this barbarous practice." The Bhotiyas on the north and the Pathâns on the south were the principal customers. The Government considered that no action was necessary in the shape of enactments and rules for the suppression of the traffic in children; that the natural affections of the parents might safely be relied upon as a remedy against a resort to this course, except as a relief to themselves and children in times of extreme distress. As the prosperity of the province and the comfort of the people increased, so, it might be hoped, this practice would diminish and eventually cease, at the same time the sales of wives by their husbands, of widows by the heirs and relations of the deceased and of children to be taken out of the country chiefly for the purpose of being made household slaves, were forbidden and made penal. But slavery in the form in which it existed continued and flourished, and as late as 1837 the Commissioner reported thus:—

[1] To Commissioner, dated 5th July, 1822; to Commissioner, dated 24th January, 1825; from Government, dated 5th June, 1823.

"Slavery in Kumaon appears to be hereditary. The classes of slaves are distinguishable into household slaves and slaves kept for the cultivation of the land, the former, Khasiya Rájputs, the latter Doms. This state of bondage would seem to have existed from a very remote period. The slaves are dependent upon their owners for food, lodging and clothing, and for the discharge of marriage expenses. The purchase or temporary engagement of such persons for carrying on cultivation as well as the purchase of females for prostitution are still common and have never been prohibited. Such transactions are accompanied by a deed of sale. The recognition of slavery by the courts is confined to the sale of individuals by their parents. Claims for freedom or servitude are heard like other suits."

Thus we see that Mr. Traill's administration had its dark side amid much that was bright. Slavery was extinguished merely by refusing to permit suits for the restoration of slaves or for the enforcement of slavery to be brought in our courts. The prohibition of slavery in its first form was followed by the abolition of *sati* in 1829. In 1837, Colonel Gowan, the Commissioner, reported that murder and theft are yet rare amongst the people, and although crime has increased since 1821, yet the total number of criminals confined in jail on the first of January, 1837, numbered only 142, of whom 28 were convicted of gang robbery in the tract along the foot of the hills and were natives of the plains. Complaints on account of injuries received by sorcery and applications in caste matters were, however, still very numerous.[1]

Banditti in the lowlands.

During the same year, however, Mr. Bird records his opinion that it was universally believed that crime was less infrequent than had been generally supposed, and that in the Tarái especially banditti were allowed to roam about as they wished. This matter of the presence of armed bands of robbers in the tract skirting the foot of the hills was one of old standing. From very early times the forests and fastnesses of the lower hills afforded a safe retreat to the broken followers of the different petty States who quarrelled and fought and rose and disappeared during the breaking up of the Mughal empire. The former governments, finding that there were no existing means of putting a stop to the depredations of these banditti, took the leaders of each gang into their employment and authorised them to levy certain dues on all merchandise passing through; the lessees engaging on their part to keep up the *chaukidári* (watch and ward) of

[1] Report dated 17th March, 1837.

the borders and indemnify traders for any losses by plunder. On the first establishment of the Gorkhâli Government in Kumaon, it was resolved to dispense with these Heri and Mewâti watchmen, and parties of troops were detailed for the duty of patrolling the roads, but the attempt proved unsuccessful, and the repeated complaints of merchants who sustained loss at the hands of the lowland robbers induced the Gorkhâli Government to have recourse to the old system.[1] At the British occupation, the descendants of the original lessees, though they could no longer be called leaders of banditti, were formidable by the numbers of their followers, and owing to this difficulty were permitted to retain their offices. This difficulty was further heightened by the disputes between the officers administering the plains districts and Mr. Traill regarding the boundaries between the hills and plains and the frequent transfer of the Tarâi from the jurisdiction of one to that of the other, of which some account has already be given.[2]

Heris and Mewâtis.

Mr. Seton, one of the earlier Magistrates of the Moradabad district, granted to the Heri and Mewâti leaders certain lands in *jágír*; to Aín Khán, the *ilákah* of Kalyânpur containing thirteen villages and subject to a land-tax of Rs. 3,000 a year, and to Turáb Khán four villages, the grantees engaging to put an end to all gang-robberies and to compensate the owners for any property lost by robbery. A regular list of dues was then drawn up and agreed to, and being individually very small they were willingly paid by the merchants to insure the safety of their property. The charge for exports on merchandise per cooly load and on specie per bag ranged, according to the place, at from one to two pice and for imports per cooly load from one to four annas. A bullock-cart laden with catechu and each manufactory paid four annas; each cattle station or *goth* paid two pice, and one anna per head was levied as a grazing tax on hill-cattle pastured in the lowlands. In 1817, Aín Khán Heri had charge of the traffic passing to and from Bhamauri, Kota, and Dhikuli with Rudrpur, Chilkiya and Káshipur and Ami Khán Mewâti had charge of that passing by the Káli Kumaon and Chaubhainsi passes with Barmdeo, Bilheri and Pilibhít. Early in 1818, Mr. Shakespear, then Superintendent of Police, brought

[1] To Board, dated 6th December, 1817. [2] Gaz. XI—1.

this state of affairs to the notice of the Board of Revenue. He pointed out "the apparently destructive tendency of the system recognised in these leases by which a farmer, for the inconsiderable sum of Rs. 8,881 was empowered to establish a number of posts along a line of country extending upwards of sixty miles between the Rámganga and Sárda rivers and to levy customs apparently almost undefined in their amount on all articles of trade with the hills, such duties differing in no respect save their being licensed from those restrictions on the transit of commerce which the Board had forbidden as arbitrary exactions." The consequence of this remonstrance was that the Board instructed the Commissioner to use no efforts for a resettlement of the existing leases on their expiry until further orders, and that the protection of the country should be undertaken by a regularly engaged and paid establishment. There was reason to believe that the responsibility of the leaders for losses by theft and robbery was merely nominal, whilst the exactions to which traders were subjected under the plea of this nominal protection were not capable of being controlled. This advice was partly acted on and military posts were established along the frontier, composed of drafts from the Kumaon Provincial battallion, whilst the leaders of the chaukidárs were relieved as far as possible of all police duties. On the death of Aín Khán, in 1822, his *jágír* was resumed, and Mr. Halhed was intrusted with the duty of introducing such measures as might ensure the safety of the persons and property of the traders proceeding to Káshipur or Chilkiya. Provision was to be made by the grant of land for Aín Khán's family, and to his adherents was to be offered every inducement to take to agricultural pursuits by the offer of lands on easy terms. No improvement, however, took place, and in 1823 Mr. Traill had to call attention to the constant dakaitis and highway robberies committed in the strip of country lying between the hills and the towns of Najíbabad, Nagína and Afzalgarh. From the year 1815, no improvement had taken place and the number of Garhwáli traders who lost their property was so great that in 1823 the communications between the hills and plains had practically ceased. In 1824, the Collector of Moradabad and the Superintendent of the Dún, retorted by formal

[1] To Board, dated 6th December, 1817; from Board, dated 26th December, 1817; to Collector, Moradabad, dated 4th June, 1823.

complaints against Mr. Traill's military police while Kalu's gang of dakaits plundered two of his police-stations, killing some of his men and making off with their arms and accoutrements.

Although the efforts made to induce the Heris and Mewátis to take to agricultural pursuits were in a great measure successful, their place in the Tarái was soon occupied by Gújars and other banditti from the Duáb and Rohilkhand. Complaints were continually made to the authorities that organised bands of robbers had taken possession of the Tarái and were preventing the settlement of the forest tracts and were seriously interfering with the trade from the hills. In 1830, Mr. Pidcock, Joint Magistrate of Moradabad, brought to the notice of Government the deplorable state of the low country caused by the outrages perpetrated by these robbers. He showed that between the years 1824 and 1829, as compared with the years 1818 to 1822, dakaitis had increased from 6 to 25, cases of grievous hurt had risen from 17 to 36, housebreaking accompanied with violence to the inmates from 2 to 8 and theft with violence from 12 to 16. On the resumption of the *jágírs* in 1823, pensions, of Rs. 12 a month, were bestowed on Turáb Khán and Ghulám Mahi-ud-din Khán, members of Aín Khan's family and police-stations were established at Bazpur, Jaspur, Barhapura and Kot-kádir with outposts near Kot-kádir, at Gularguji and Patta at a cost of Rs. 6,396 a year. The Jágírdárs formerly paid a revenue of Rs. 300 a year and the resumed grants now yielded Rs. 5,331 a year, making the increase in cost to Government of the measure introduced by Mr. Halhed of nearly Rs. 3,800 a year. Thus there was an increase in cost and an increase of crime. At the same time, the condition of the Heris was miserable in the extreme. They still acknowledged the leadership of Yasín Khán and Nasím Khán, sons of Aín Khán, and more from habit than from the hope of reward attempted to clear the forests of dakaits. They slew Ahmad Khán, a noted ringleader, and rescued a prisoner from Buláki, who even then (in 1830) was the terror of the neighbouring districts.

Mr. Bird.

The example of Kalwa in the Dún and the neighbourhood of Hardwár was very attractive. In 1824, this man with his Lieutenants Kunwar and Bhúra, all Gújars of the Saháranpur district, attacked a police-

station and plundered[1] a considerable village, and growing bold, with impunity, the leader set himself up as a Rája with a following of over one thousand men. Mr. Shore of the Dún and Mr. Grindall defeated Kulwa at Kunjah, where Kulwa himself was slain with many of his followers. The dispersed banditti were followed and driven out of the Dún, took refuge in the tract along the foot of the Kumaon hills. An attack on a band of pilgrims journeying to Hardwár brought on them Mr. Shore and the Sirmor regiment of Gorkhális from the Dún, who, after some years of patient never-ceasing pursuit, disposed of both Bhúra and Kunwar. Their successors as we have seen, still infested the tract along the foot of the Kumaon and Garhwál hills of which Mr. Bird writes in these terms in 1837:—"The officers residing in the hills have no sort of control over this tract nor any information of what passes there * * . For only four months in the year it is the resort of the hill people and their cattle, and through it pass all the tracks by which the commerce of the hills and the plains is carried on. During the busy season the banditti establish themselves in the forest in overwhelming numbers and commit the most fearful atrocities against the merchants passing through with goods, the herdsmen from the hills and plains who take cattle there to graze, and the inhabitants of the villages and towns bordering on the forest. The information that I could obtain can have no pretension to statistic accuracy, but the histories that were told me of skeletons of human beings being found tied to trees and supposed to be the wretched herdsmen whom the robbers had bound alive and so left miserably to perish, and the accounts of merchants and travellers killed and wounded appeared authentic: and the village of Rudrpur was stated by the remaining inhabitants to have been rendered from a thriving town to a miserable hamlet by the oppression of the robbers." As a remedy for this state of things a special officer was proposed with joint jurisdiction with the local authorities over all the bordering districts.[2] The result of this report was that the whole of the Garhwál Bhábar including taluka Chándi, and the Kotri and Pátli Dúns were transferred to Bijnour; parganahs Thákur-

[1] Williams Memoir of Dehra Dún, 150. [2] Also Batten to Government, 10th June, 1837.

dwára, Jaspur, Bázpur and Káshipur with the neighbouring Tarái were transferred to Moradabad and Pilibhít received Gadarpur, Rudrpur and Kilpuri with the adjacent Tarái with the condition that no hill men were to be summoned to attend the courts of the plains authorities from the middle of April to the middle of November in each year and that avenues were to be cut through the forest and continually patrolled.[1] Another passage of Mr. Bird's report led to further inquiries.[2] It runs:— "The system of criminal justice in Kumaon requires also very great reformation. I was credibly informed that persons are apprehended retained in jail and worked in irons for years on the roads not only unsentenced and untried but even without any recorded charge." * * *. "It is essential to the due protection of the people that they should have an appellate authority to which they may resort in the immediate vicinity and that the Commissioner of Rohilkhand or the Senior Judge of that Division would appear to be the most proper selection." Act X of 1838 repealed Reg. X of 1817 and affirmed the control and superintendence of the courts of Nizámat Adálat over the criminal courts of Kumaon. Certain powers had already been given to the Nizámat Adálat by Reg. VI of 1831, and these were now confirmed and the sepoys of the Kumaon local battalion[3] (now 3rd Goorkhas) were transferred from civil to military employ and duties as guards provided for locally. It was finally arranged in 1842 that the Bhábar should be annexed to Kumaon, the Magistrates of the plains having concurrent jurisdiction to the foot of the hills in so far as to warrant their following up and arresting any offender or fugitive who might seek shelter within the limits of the tracts thus transferred. Rules were also framed under Act X of 1838 for the administration of justice in criminal cases but these were superseded by the Criminal Procedure Code, which rules the practice of all Criminal Courts at the present day.

Police.

There is no regular police in the hills except a few at Almora, Naini Tál, Ránikhet and in the Bhábar, and these are not enrolled under the law

[1] From Government, 339, dated 29th January, 1838 and 24th November, 1838. [2] From Government, 10th July, 1837. [3] First raised for local duties after the conquest; to Government, dated 11th June, 1816. Mr. R. Lushington took charge as Commissioner 30th October, 1838.

prevailing in the plains. The few peons attached to the courts and tahsíls perform, with the assistance of the *thokdárs* and *padháns*, the duty of apprehending offenders and escorting prisoners. The *padháns* arrest offenders and report crime to the patwáris and provide for the forwardal of persons charged with heinous offences for trial. The *thokdárs* are bound to report crime[1] overlooked by the *padháns* and few offences are concealed for the village officials in their duty have to make so many enemies that any concealment on their part can hardly escape detection. Sir H. Ramsay writes :—

"I believe our rural police system works better than in any other part of India, and it would be most unwise to interfere with it. It has the great merit of being cheap, *i.e*, costs the State nothing (except the Bhábar police) and the absence of annoyance and worry inseparable from a paid police is not its smallest recommendation."

There is no doubt that the present system is best suited to the people and the country, and it is to be hoped that the desire for uniformity which is begotten of blanks in the fair returns in annual reports opposite Kumaon and Garhwál will not be allowed to absorb these districts and introduce the plains system, which is entirely unfitted for them. There are lock-ups at Naini Tal and Páori in Garhwál and also in the Bhábar, but there is only one jail (Almora).

Civil administration.

By an order of the 3rd May, 1815, the Hon'ble E. Gardner was directed to assume the official designation of Commissioner for the affairs of Kumaon and Agent, Governor-General. Mr. G. W. Traill of the Bengal Covenanted Civil Service was appointed as Assistant (8th July) and joined on the 22nd August, when he was at once intrusted with the administration of Garhwál (10th October). On the departure of the Hon'ble E. Gardner (13th April, 1816) Mr. Traill was appointed to officiate as Commissioner and was confirmed in that office in the following year (1st August). As he did not relinquish charge of the province until 1835, the whole of the arrangements made for the administration of both civil and criminal justice originated with him or received his sanction.[2] In 1821, Mr. Traill in one of his letters[3] made several proposals for the improvement of the administration, and in it occurs this remarkable passage :—

"It is probable that many of the suggestions have already formed the subject of legislative enactments, if so, I have only to offer in excuse that, as the

[1] Traill to Government, dated 27th May, 1821. [2] See also Gaz., XI., 626. [3] To Board, dated 27th May, 1821.

regulations do not extend to this province, I have not been furnished with or seen a single regulation for the last six years."

This will show more clearly his position as regards Kumaon than any description of mine. Mr. Traill was not only administrator but also legislator for his province, and it will be interesting to record his own description of the rules for civil procedure that he thought necessary and sufficient:—

"The original plaint is now required to be written on an eight anna stamp as the investigation and decision of every suit, whatever the amount of the cause in action, fall to the cognizance of one court. Some discrimination is used in the previous admission; causes which, from the plaintiff's own written statement, must in the sequel be inevitably nonsuited, are rejected in the first instance, the ground for such refusal being recorded on the face of the petition. Cases of this nature are confined to objections of limitations of time or jurisdiction. Where the suit is admitted, an order of the court of the nature of an ittilanama is furnished to the plaintiff with the view to its being served by himself on the defendant. In three-fourths of the plaints instituted, this process proves sufficient to induce a private settlement of the claim. In the event of the plaintiff not receiving satisfaction, he returns the original notice into court, when the suit is regularly fixed for adjudication, and a summons to require the personal attendance of the defendant is issued. After a *vivâ voce* examination of the parties, the necessary witnesses on both sides are sent for. In the examination of these latter an oath is very rarely administered. This omission does not arise from any ignorance on the part of the natives of this province of the nature of an oath, as they are on the contrary remarkably sensible of the religious obligation and are in consequance generally averse to incurring the responsibility of an oath.

Their simplicity of character and common adherence to truth is, however, such as to render it extremely easy to elicit the whole truth without recourse to this ceremony. An indiscriminate application to it on all occasions is therefore uncalled for, and would only tend to weaken its force. Where such may appear advisable to the court, or where it may be required by either of the parties, the witness is always sworn. This is, however, of rare occurrence; and, indeed, from the reasons above mentioned, the evidence of any witnesses is seldom required, as the parties commonly agree wholly in their statements and admissions. No licensed law-agents as in the courts below, are allowed to practice here; but parties who may be unable to attend are permitted to appoint any person as their agent. This regulation at once precludes all vexatious litigation and prevents any unnecessary delays or procrastination by the parties in their proceedings. From the date of the summons to the defendant, seldom more than twelve days are required for the investigation and decision of the suit; generally the proceedings are completed in even a shorter period: and as no technical forms of pleading are required, the want of experienced vakils proves no inconvenience to suitors. Copies of the decree are furnished to either of the parties requiring it on an eight-anna stamp being furnished for the purpose. The price of this together with that of the paper on which hte original plaint is entered, and with

occasional fees to process-servers employed, form the whole costs of a suit in this court.

The non-payment of a debt proceeds here generally from the want of means rather than of inclination; while the existence of the debt itself is commonly owing to some unforeseen difficulties, and not to any profuseness or want of principle on the part of the debtor. Such being the case, the hill-creditor seldom proves inexorable, but, after obtaining a decree, he is usually content to wait for its gradual liquidation by fixed instalments. Only one sale of real property in satisfaction of a decree has yet been made by order of the court."

Munsifs appointed.

"For a series of years," Mr. Traill remarks, "only one Court, the Commissioner's, existed in the province for the cognisance and adjudication of civil claims. In this Court no arrears of public business were ever known.[1] From the gross abuses which characterised the native Courts under the British Governments, when the administration of justice was sold or farmed to the highest bidder, such establishments as at present exist were not in the first instance deemed expedient. As, however, a period of fourteen years might be presumed to have induced some appreciation of our better system, a recourse to local tribunals was considered likely to consist with the ends of justice and good government; while from the increase of wealth and the enhanced value of landed property the gradual increase in proportion of litigation which resulted, rendered it in some measure necessary. Accordingly eight munsifs were appointed of whom seven were kánúngos and the title Sadr-Amín was given to the Court pandit on investing him with civil jurisdiction.[2] Rules were framed in the spirit of Regulation XXIII of 1814 for the guidance of these officers, and they continued to exercise the functions of Civil Judges in petty causes until 1838, when their offices were abolished and other arrangements were made.

This change was chiefly due to Mr. Bird's minute on the administration of justice in Kumaon, which recommended the introduction of what were known as the Assam rules, and that some order should be observed in the gradation and powers of the Courts.

[1] That this Court had enough to do may be shown from the fact that in 1824 there were 2,790 civil suits instituted of which 1,000 came to decision. Of the cases disposed of, 313 were decided in favour of the plaintiff, 278 in favour of the defendant, 58 were non-suited, and 339 were compromised.

[2] The Sadr-amín for Almora and Bárahmandal; the Munsifs for Páli, Phaldákot, Chaugarkha-Gangoli, Sor, Káli Kumaon, Chandpur and Srínagar. Mr. Traill took three months' leave preparatory to furlough, 28th October, 1835, and was succeeded temporarily by Mr. M. Smith. Colonel Gowan was appointed Commissioner, 5th March, 1836, and was succeeded by Mr. Lushington in 1838. Mr. Batten was appointed to Garhwál, 15th October, 1836, with Captain E. Thomas as Assistant, and Mr. Phillips in Almora.

Act X of 1838 provided that there should be two districts, Kumaon and Garhwál, in each of which were to be stationed one Senior Assistant, one Sadr-Amín and one Munsif; the rules for Assam to be in force with certain limitations applicable to Kumaon for the administration of civil and criminal justice. In the revenue management, the Commissioner had the same powers as the Commissioner in the plains, subject to the orders of the Board of Revenue. A Senior Assistant was to exercise the same power as a Collector and a Junior Assistant the power of a Deputy Collector. From 1836 to 1838 there was a great change in the administration. Mr. Traill was no longer there, and his successor had, perhaps, to pay by the most searching investigation into his procedure and the most minute instructions for his guidance for the unlimited autocracy of the first period. We find it forbidden to hear causes for the sale of slaves and purchase of Doms for agricultural labourers; the use of the ordeal by hot-iron in Munsif's courts in caste cases was also abolished as well as suits for losses occasioned by witchcraft and the jurisdiction assumed over temple lands in Tihri was abandoned. All these orders promoted regularity. In 1855, revised rules for the guidance of the revenue courts in summary and regular suits were introduced and with modifications continue in force to the present day.[1] The Assam rules were superseded by the Jhánsi rules in 1863 and validity was given to their extension to Kumaon by section 2 of Act XXIV of 1864 from the date of their extension until the Act quoted came into operation and portions of them providing for the establishment of courts and the periods of appeal were to continue permanently in force. It further provided for the extension of the law of limitation to Kumaon and declared that the Indian Penal Code was in force. "It is a question," writes Mr. Whalley, "which admits of a doubt whether the rules prescribed under Act X of 1838 and known as the Assam rules do not retain their legal force so far as they overlap or cover more ground than is covered by the rules that were designed to supersede them. They have never been expressly abrogated and in matters not provided for by subsequent legislation, as, for example, the law of mortgage contained in section 8, the courts are practically still guided by their provisions." Section 13 of Act XXIV of 1864 empowered the Local Government to extend

[1] G. O. No. 4085, dated 6th October, 1855.

the Code of Civil Procedure to Jaunsar Báwar and certain tracts[1] in the Rohilkhand Division which had been removed from the jurisdiction of the tribunals established under the general Regulations and Acts, but section 4 distinctly ruled that the proceedings in all civil suits in Kumaon and Garhwál should be regulated by the Code of Civil Procedure. No instructions were, however, issued regarding other matters, and the courts follow the ancient usage in all cases for which there exists no special provision in the Civil Procedure Code. The Sadr-amín is not styled a subordinate judge since Act XVI of 1868 was not made applicable to Kumaon. Similarly the rules for the service of process are based on the lines laid down by Mr. Traill as Act XI of 1863 was not extended to Kumaon. Fees are levied on all processes, civil, criminal and revenue, and from the fund thus raised the process-servers are paid. Similarly neither the revenue nor the rent laws of the plains are applicable to Kumaon, and its police were never organised under Act V of 1861. The court of the Commissioner in civil causes is not subordinate to the High Court. He submits to the Government through the High Court each month a statement of all suits disposed of or pending in the subordinate courts and all appeals, regular and special instituted, disposed of and pending in his own court, and with regard to which he has all the powers of a High Court. From the above description it will be seen that the revenue, civil and police jurisdiction of the several courts is based on rules specially applicable to local circumstances. The forest department, except in the Kumaon Bhábar, has the charge of the forests and centralisation has so far made inroads that all special departments, such as jails, education, vaccination, stamps, registration, public works, &c., are now each under the control of their respective provincial heads.

Excise.

The duties on spirits locally manufactured and drugs formed a portion of the revenue from the British occupation. The following figures show the statistics for a number of years in the earlier part of the British rule :—

	Spirits.	*Drugs.*		*Spirits.*	*Drugs.*		*Spirits.*	*Drugs.*
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.
1820-21 ...	579	240	1827-28 ...	558	274	1833-33 ...	975	264
1821-22 ...	270	264	1828-29 ...	733	274	1833-34 ...	923	252
1824-25 ...	483	274	1829-30 ...	847	252	1835-36 ...	804	372
1826-27 ...	602	274	1830-31 ...	996	240	1836-37 ...	682	372

[1] Tarái parganahs.

The figures for the first year include the entire farm for Kumaon and Garhwál; for the succeeding years the Kúmaon figures are separately given. If we compare the modest Rs. 534, the produce of the spirits and drugs farm in 1822-23 with Rs. 29,013 the produce in 1882-83, in Kumaon alone, the increase seems to point to a very great spread of drinking habits amongst the people: but we are assured, on the good authority of the Commissioner, that this is not the case. "There is no consumption among the rural population of the hills—and I sincerely hope there never may be. Shops ought never to be allowed except at stations." With these pious aspirations we cordially concur. Similarly, the report of the district officer states that there are very few shops and the hill people, as a rule, do not indulge in liquor; the principal customers being the troops and the lowland people connected with the sanitaria. In all districts bordering on native States the facilities for illicit manufacture and smuggling form an insurmountable obstacle to the introduction of the distillery system, so that it has been found necessary to lease the right to manufacture and sell to one or more individuals who are sufficiently alive to their own interests to prevent others from trespassing within the area of their license.

The following table gives the statistics for several years:—

Year.	*Licenses.*		*Drugs.*	*Opium.*		*Chandu* and *Madak.*	Fines, &c.	Gross receipts.	Gross charges.
	To sell and make country liquor.	To sell English liquor.	Dues.	License fees.	Excise duty.				
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			
1872-73 ...	9,265	1,342	4,521	...	3,150	349	36	18,663	1,565
1873-74 ...	10,177	1,358	4,091	...	2,275	1,007	16	18,924	1,412
1874-75 ...	12,377	1,079	4,322	...	3,710	999	...	22,487	1,498
1875-76 ...	14,222	1,244	4,210	...	4,961	1,005	...	25,642	1,797
1876-77 ...	15,119	1,201	3,952	...	5,084	850	...	26,206	1,884
1877-78 ...	13,479	1,218	3,716	50	4,288	940	15	23,706	1,632
1878-79 ...	13,821	1,301	3,075	859	4,716	320	...	24,092	1,512
1879-80 ...	14,873	2,119	2 841	1,078	5,609	170	3	26,693	1,345
1880-81 ...	14,387	2,035	3,458	688	6 116	367	...	27,051	1,416
1881-82 ...	18,403	2,027	4,322	851	6,528	655	1	32,787	1,512
1882-83 ...	15,988	2,461	3,670	700	6,177	...	17	29.013	1,445

There are eight licenses for the sale of drugs and a similar number for the sale of opium.

Stamps.

The stamp revenue commenced by the imposition of a fee of eight annas on all petitions originating a suit but no institution or other fees were levied.[1] Subsequently a fee of eight annas was also imposed on applications for copies of documents more than a year old.[2] Gradually with the introduction of other reforms came the assimilation of the procedure in stamps to the practice of the plains and now there is no difference. The following table gives the receipts and charges of this source of revenue from 1872-73 to 1882-83 and at foot for comparison the figures for the last year for Garhwál and Dehra Dún. The Kumaon figures include those for the Tarái district from 1878-79 :—

Year.	One anna adhesive.	Hundi stamps.	General stamps.	Others and penalties.	Total receipts.	Charges.	Court-fees stamps.	Charges.	Total net receipts.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1872-73 ...	936	890	11,235	21	13,082	1,932	28,487	504	39,133
1873-74 ...	1,682	122	10,818	162	12,784	1,003	37,594	423	48,952
1874-75 ...	1,554	266	11,220	129	13,169	1,153	36,606	290	48,332
1875-76 ...	1,952	168	11,577	158	13,855	1,101	37,282	...	50,036
1876-77 ...	1,879	99	10,450	741	13,169	1,562	39,923	64	51,466
1877-78 ...	2,029	83	11,964	285	14,361	1,060	41,498	...	54,799
1878-79 ...	2,031	80	13,442	822	16,375	756	45,964	312	61,271
1879-80 ...	1,985	71	13,058	234	15,348	646	40,607	309	55,000
1880-81 ...	2,334	100	13,193	975	16,602	642	42,234	397	57,797
1881-82 ...	2,420	145	13,708	258	16,531	1,414	43,830	323	58,624
1882-83 ...	2,279	308	12,886	308	15,781	654	43,165	370	57,922
Garhwál ...	121	5	2,712	38	2,876	205	17,195	309	19,557
Dehra Dún ...	4,216	440	8,211	1,933	14,801	910	15,774	182	29,483

Registration.

The following statement shows the registration statistics for Dehra Dún, Kumaon, Garhwál and the Tarái for the years 1881-82. Under the head 'compulsory' are those documents affecting immoveable property which the law states shall be registered; under the head 'optional' come documents also affecting immovable property which need not be registered: both these classes are registered in Book I. Wills and written authorities to adopt are entered in Book III. and documents affecting movable property are entered in Book IV. In the Dehra Dún district there is a Registrar, and Sub-registrars at Dehra and Chakráta. In the Kumaon and Garhwál districts there

[1] To Board, 14th November, 1820. [2] *Ibid*, dated 29th May, 1840.

is one Registrar, and Sub-registrars at Almora, Naini Tal, Ránikhet, Champáwat and Srínagar, and in the Tarái district a Registrar, and a Sub-registrar at Káshipur :—

	Total documents registered.					Fees realised.	Charges.	Net receipt.
	Book I. (immoveable).		*Book III.*	*Book IV.*				
	Compulsory.	Optional.	Wills and adoptions.	Moveable property	Total.			
						Rs.	Rs.	Rs.
Dehra Dún	377	41	4	157	579	1,850	886	964
Tarái	161	67	1	51	280	505	253	252
Kumaon	521	146	44	77	788	2,022	1,571	451
Dehra Dún	295	30	7	124	456	1,630	898	732
Tarái	158	68	...	55	281	495	247	248
Kumaon	518	159	37	60	766	1,674	1,551	123

The average cost of registration to Government in Kamaon is Rs. 1-15-5 and in the Tarái is Re. 0-14-0. Registration was first introduced in 1843 with a maximum fee of one rupee.

Post-office.

The Kumaon and Garhwál districts form one circle, of which the postal statistics may be shown as follows :—

	Despatched.				*Received for delivery.*			
	Letters.	Newspapers.	Books.	Parcels.	Letters.	Newspapers.	Books.	Parcels.
1861-62 ...	99,457	4,035	964	309	84,404	10,797	1,761	1,499
1872-73 ...	1,41,206	6,804	514	1,068	1,09,238	20,708	2,710	2,072
1882-83 ...	...	...	...	...	1,37,514	37,544	4,128	2,938

The increase is marked and satisfactory, and shows the progressive improvement of the district as much in this as in other departments. There are post-offices at Rámnagar, Káladhúngi, Naini Tál, Almora, Ránikhet, Haldwáni, Pithoragarh, Lohaghát, Baijnáth, where money-orders may be obtained, and also at Bágeswar, Berenág, Kausáni, Dwárahát, Chaukuri, and Champáwat; all in Kumaon. In Garhwál, there are postal and money-

order offices at Páori, Srínagar, Rudraprayág, Karnprayág, Nandprayág, Joshimáth, Dádamauli, and Kotdwára. These are in addition to the local post maintained from the district post cess, and which has its separate organisation. It is maintained as much for public convenience as for administrative purposes, and is the great channel of communication between the patwáris and the head-office. Without the district post, the police arrangements of the district would break down, and the certainty of information coming from all parts of the district, keeps the patwáris up to their work. About 6,000 square miles have to be looked after and in this area there are 91 patwáris in Kumaon alone, through whom the police arrangements are carried out, and a great many men are required on the district-post establishment to convey reports to and from Almora. The same system obtains in Garhwál, where there are 44 patwáris. No charge is levied for conveying the private correspondence of the people themselves.

Medical.

Amongst the diseases either endemic or epidemic in the hills are the plague, cholera, small-pox, fever, goitre and leprosy, and we shall here devote a little space to their description. The plague, or *mahámari* as it is called in Kumaon, and *gola-rog* or *phútkiya-rog* in Garhwál, is a pronounced fever of a typhoid type almost identical in its symptoms with the Levantine plague, and has been proved to be highly infectious.[1] Dr. Renny gives the following description of this disease :—

Description of *mahámari*.

"*Mahámari* is a malignant fever, of a typhus character, accompanied by external glandular tumours, very fatal, and generally proving rapidly so in three or four days; it appears to be infectious, and is believed not to be contagious. The usual symptoms of fever are present, and might be enumerated in every variety, but the cases observed were too few to rest upon them the diagnostic marks of the disease on all occasions. Heat of skin, accelerated pulse, lassitude, chilliness, nausea, thirst, a white and furred tongue, were all noticed. Headache was prominent in all, increasing to the most acute pain with blood-shot eye, and it is supposed the brain will be found the most morbid seat of disease, though all the organs may, no doubt, partake of the highly septic quality of the pestilence. The external swell-

[1] Dr. Govan of Almora believes it to be contagious; Dr. Renny, in his report (73, dated 19th August, 1850) gives reasons for holding it to be not contagious and simply a typhus of a very malignant kind, most probably infectious at all times and certainly so when many predisposing circumstances favour its extension. Subsequent experience tends greatly to confirm this view, as men who were employed to collect the dead were entirely exempt from the disease. For aid in this note I am indebted to Colonel Garstin and Dr. Govan, late Civil Surgeon of Almora.

ings, suddenly rising, indolent, and not very painful, are the most characteristic proofs of the malady; glandular swellings in various parts of the body, the groin, axilla, neck, and even in the legs, are described as occurring, but in the cases witnessed recently as well as those of the few who had survived an attack, the tumours or buboes, if they can be so called in that state of incomplete inflammation and suppuration, were only in the groin, a long diffused tumefaction with an enlarged gland in the centre of the size of a nut; they are looked upon by the natives as the most deadly sign of the distemper, and are really to be considered an unfavourable prognostic. Symptoms similar to those of cholera have been reported by the natives, but none at all corresponding were seen; the stomach and bowels were little affected, and the latter were inclined to costiveness. The lungs did not appear to suffer, and the respiration was not labored except in one case far advanced. From unavoidable obstacles, the state of the kidneys and the secretion was not ascertained. The most remarkable circumstance in the disease is the mild nature of the entire symptoms under so rapid a termination, little febrile or other constitutional excitement presenting itself where death was certain in 24 or 36 hours. Such trifling derangement of the functions of health would be a startling and unaccountable anomaly and not to be reconciled with the speedy fatal result, had not the same thing been observed in other epidemics in India, and even in the plague itself."

It was first discovered and recognised in Garhwál in 1823 and has ever since appeared occasionally in the Badhán and Chándpur parganahs of Garhwál and sometimes in Malla Salán and similar tracts in Dánpur and the upper Kosi valley. Dr. Renny gives the following account of the various outbreaks in Garhwál and Kumaon:—

"Its most remarkable appearances have been as follows:—It began near Kedárnáth, in the snowy range, and for some years confined its ravages to Nágpur and Badhán, which form the subject of the first[1] report upon it in 1834 and 1835; in the latter parganah it again prevailed in 1837, along the higher parts of the river Pindar; in 1846-47, the *mahámari* found its way to the sources of the Rámganga in Patti Lohba, and devastated the village of Sarkot, situated at above 7,000 feet on a high easterly spur of the great mountain Dudu-ke-toli; at the same time a village in Kumaon proper, near the source of the Kosi river in Patti Borárau, was visited. In 1847, a village within 15 miles of Almora, situate among the pine forests of the Siyáhi Devi range, was attacked. At the latter end of 1848, a few villages in parganah Dánpur, along the line of the river Pindar, were threatened with the disease, but the alarm subsided; on the whole, the year 1848 and part of 1849 may be said to have been remarkably free from *mahámari* throughout the province. During the rainy season of 1849 it broke out with great virulence in Choprakot, and although the disease did not spread through the country, it proved very fatal in particular villages, Márora and Dadoli."

Mahámari broke out again in 1852 and again in 1876. In the former year Messrs. Francis and Pearson formed a commission

[1] To Commissioner, 15th February, 1836: Dr. Bell's report, 12th April, 1836, 8th July, 1840, and 23rd July, 1840 to Mr. Batten.

of inquiry, and in 1876 Messrs. Planck, Watson and Campbell, so that we have some fairly connected records of each visitation. In 1876 some 535 men, women and children fell victims to the disease.

Causes.

Colonel Gowan in his report on *mahámari* in 1836 notices the belief of the people that it was communicable by contact with articles in use in an infected tract, such as a jar of *ghi* or clothes. Others say that it came into existence for the first time at the Hardwár fair. Most natives believe "that everywhere it appears first to have attacked the rats and then the men," which may be accounted for in this way. The villages in which the *mahámari* first breaks out are noted above all others for their cultivation of *chua* (Amaranthus frumentaceus) and it is where this grain is chiefly used that the disease first breaks out. It is possible that under some conditions of weather and surroundings a chemical change may take place in this grain which the rats who feed on it are the first to suffer from, and then the people themselves. Some change like that producing the ergot of rye would suffice and lay the match to the magazine of diseases ever present owing to the insanitary condition of the villages. Sir H. Ramsay writes:—

"The death of rats previous to the actual outburst of the disease amongst the people is so invariable, that if the inhabitants only avail themselves of this sure warning and vacate a village at once, they might escape the disease altogether. It is a standing order that on the death of rats they are immediately to vacate; but they linger on in hopes of the disease not appearing and flee only when too late, *viz.*, not until infection has appeared, and then many lives are lost. Those villagers who have heeded the warning entirely escape the disease, as proved in numerous cases."

As to the grain theory, the same authority considers the reasoning bad, as many who took the grain from the villages with them remained unaffected. Still the fact remains that the first outbreak of the disease usually occurs in villages in which the amaranth *chúa* forms the staple food of the people. In 1852, Messrs. Francis and Pearson were deputed to inquire into *mahámari* in Garhwál, and there can be little doubt that the remedial and preventive measures adopted in their recommendation, the isolation of the infected, the burning of infected villages and articles, the enforcement of personal cleanliness, the clearance of the accumulated filth from

within and around the dwelling houses, and other similar measures, undoubtedly did much to ward off the attacks. There can be no question that the disease is mainly attributable to the filthy habits of the people who keep cattle and fowls and animals in their dwelling houses and throw all refuse and litter just outside the doors; to their using old and bad grain; to their raising and training cucurbitaceous plants over their houses; to their planting hemp immediately in front of and around their dwelling, which grows to a considerable height and obstructs the circulation of air and emits a distinctly miasmatic odour; and to their want of personal cleanliness.[1]

Another endemic disease is a species of typhoid fever known as *sanjar* or *kújar*. When it breaks out in a village, the death-rate is very high, but it is of comparatively rare occurrence and is usually confined to low, hot and damp valleys or in villages so situated. The origin of this fever also is clearly due to the filthy state of the villages. When this disease breaks out, the entire village is at once isolated and, if possible, the people leave their houses and live in the jungle until the disease has abated. Before returning, all the dwellings are cleaned and plastered or whitewashed. The harrowing accounts of the utter mental and moral deterioration caused by these outbreaks need not be noticed here, but I must quote from Dr. Pearson's report one passage:—

"When *mahámari* breaks out in a village, the terror and mental anxiety of the inhabitants are past description: then the strongest family ties are broken, fathers and mothers forsake their children, wives and husbands separate, mutually distrusting each other. One and all precipitately abandon their homes, leaving behind them all their household goods, provisions and standing crops to face, for them, the less frightful alternative of a solitary and wretched existence in the jungle, without food or shelter, perhaps to die of starvation, and their bodies to become the prey of wild beasts."

Another endemic disease is malarious enteric fever, which might be called yellow fever, as the sufferer becomes of a turmeric yellow colour and frequently vomits blood and, becoming insensible, rapidly sinks. This fever prevails in densely-wooded villages in the Bhábar. The ordinary remittent and intermittent fevers also are common, and amongst Europeans a very distressing form of

[1] Rules for the sanitation of villages for the prevention of *mahámari* were drawn up by Dr. Pearson and have been found perfectly satisfactory, backed by the provisions of Chapter XIV of the Indian Penal Code and Chapter XXV of the Criminal Procedure Code.

dyspepsia. Measles and chicken-pock also occur, and sometimes the former is very fatal to children, when it takes the epidemic form. Small-pox was a characteristic disease of the hills and was that form of disease regarding which the Tibetan envoys made special inquiry every year before permitting the opening of communications. But since the introduction of vaccination, proposed by Mr. Traill in 1818 and again by Mr. Batten in 1840, the disease has almost been stamped out, and it now appears chiefly in an epidemic form. At first, inoculation was practised, and during the Gorkháli administration a *jágír* was set apart for an inoculator in Kumaon, and in the Dún a person was allowed to have the monopoly of this practice and make his own charges,[1] but Government prohibited the official use of inoculation. Up to 1854, however, the inoculators had it all their own way. Commencing their operations in the spring of the year, they started an epidemic which ended in a large mortality. In 1854, Dr. Pearson with Mr. Batten's concurrence commenced with two vaccinators. At first there was some slight opposition, but it soon became popular as the results became known, and the number of operators was increased and arrangements were made to supply the plains' districts with vaccine virus. Matters progressed so that in 1868, Act XXIV of that year was passed to prohibit the practice of inoculation in any form and was accepted by the people, with the result that now an epidemic of small-pox seldom occurs and the deaths from this cause are less than from almost any other disease. The wonderful success of vaccination in the hills appears to be due to the fact that a similar remedy against small-pox had been known to the people in inoculation, and they therefore were prepared to accept vaccination as a substitute when they found it to be harmless and free from the dangers of inoculation and also more efficacious as a prophylactic. The average number of deaths from small-pox in Garhwál from 1867 to 1873 was 23 and from 1873 to 1877 was 15 : in Kumaon the figures were 22 and 27 respectively. During the year 1877-78 there were 72,410 primary vaccinations in Kumaon and Garhwál, of which

Small-pox.

[1] To Government, dated 5th December, 1818 : Shore to Traill, dated 5th October, 1828.

62,596 were successful, giving an average of about 56,000 successful vaccinations for the previous five years. In 1880-81 the total number of persons primarily vaccinated for the whole Kumaon Division including the Bhábar and Tarái was 71,909; in 1882-83 was 40,865, and in 1883-84 was 38,855. There are dispensaries at Srínagar and along the pilgrim road in Garhwál and at Almora, Naini Tál, Haldwáni, Káladhúngi and Rámnagar in Kumaon.

Leprosy.

Leprosy is very common in parts of the hills. It is divided locally into eighteen kinds, but there are really only two—the white and the common leprosy. It is considered to be contagious and hereditary. The Leper Asylum at Almora, supported by voluntary contributions, receives inmates from all parts of Kumaon and Garhwál and even Nepál.

Cholera.

Cholera visits the hills in an epidemic form, chiefly coincident with the breaking up of the great Hardwár fair. This was especially noticeable in the great cholera years 1857, 1867, and 1879. In the first and last it ascended as far as the Bhotiya villages. In Garhwál, the pilgrims who flock in great numbers every year to the sacred shrines of Badrináth and Kedárnáth used formerly to introduce many diseases, but of late years when any epidemic contagious disease is rife in the plains about the time of pilgrimage, ingress is forbidden. In all epidemics, the Doms who form the labouring classes are the first to be attacked. They are exceedingly filthy in their habits and eat meat of any kind, even carrion, hence disease when it attacks them finds in them victims prepared for its ravages and they easily succumb. *Mahámari* and cholera are for the most part fatal, but malarious fever and small-pox only to the extent of about one-third. Goitre (*ghega*) is not uncommon, but it is confined to certain localities and aspects, with regard to which no general rule can apparently hold good. Perhaps a combination of debilitating influences, such as humidity of the atmosphere, infected air in close valleys, marshy soil, habits of the people, abrupt changes in temperature, and water from calcareous sources, all combine to produce this disease. Madden notices the use of the *gilar-ke-patti*, a sea-weed imported from the west, in the native treatment of goitre.

The following statement compiled from the official returns shows the causes of death for eleven years :—

Year.	Cholera.	Small-pox.	Fevers.	Bowel complaints.	Injuries.	All other causes.	Total.	Ratio of deaths per 1,000.
1872	26	39	4,452	2,113	269	2,054	8,944	20·78
1873	2,107	79	4,492	2,185	335	1,946	11,144	25·74
1874	1	16	3,063	1,499	239	2,014	6,832	15·78
1875	12	5	4,052	2,061	285	2,335	8,750	20·21
1876	808	12	3,657	2,012	166	2,576	9,231	21·32
1877	13	21	3,461	1,936	197	1,917	7,545	17·43
1878	393	39	3,922	1,828	197	1,744	8,123	18·76
1879	6,894	20	4,364	1,853	174	2,038	15,343	35·44
1880	5	1	7,035	1,889	353	1,850	11,133	25·72
1881	68	30	7,367	1,513	173	1,156	10,307	20·88
1882	83	81	5,745	2,303	199	1,739	10,150	20·96
Garhwál	...	2	4,046	3,331	238	294	7,911	22·89
Tarái	67	292	9,533	1,286	89	283	11,550	60·06

I add the figures of 1882 for Garhwál and the Tarái for comparison. It will be seen that nearly five per cent. of the Tarái population died of fever chiefly between October and January, raising the death-rate to two per cent. over the birth-rate. The birth-rate per 1,000 of the population during the same year in Kumaon was 23·6 ; in Garhwál was 40, and in the Tarái was 37·2. The figure for Garhwál appears excessive, for, from 1867-68 to 1871-72, the birth-rate averaged 24 against an average death-rate of 20 per 1,000. The average death-rate per 1,000 of the population for the five years preceding 1882 was 21·25 in Kumaon ; 20·74 in Garhwál, and 41·67 in the Tarái.

Cattle-diseases.

Both Kumaon and Garhwál have a bad reputation for cattle-diseases. Rinderpest broke out first in 1850-51, and again appeared in 1864-65, and 1872-73, since when it has been practically endemic. On each of the three occasions mentioned it caused great loss, and has varied much in its course and virulence. It has not followed in its epidemic form any particular line of country, but has passed over some villages to come back again after a time. In some, ninety per cent. of the cattle died; in others, hardly one-fourth. Isolation and burying the dead cattle are the only preventive measures that have been of much use : medicines have been tried and have failed perhaps from not having been used in time. Foot and mouth disease

or *khuriya* is more of an endemic than an epidemic disease in these hills. The symptoms are: the animal becomes thin and weak, scabs appear about the mouth and sores on the tongue, from which a slimy fluid exudes. The animal scratches its mouth with its hoofs and the hoof becomes affected with a sort of rot. In the majority of cases the symptoms are mild and pass off with careful treatment[1] in a few weeks and the animal recovers, but in some cases the tongue and hoofs fall off and the animal dies. This disease is contagious for animals using the same pasture, and children drinking the milk of animals so affected frequently suffer from bowel complaints.

Measures and weights.

Throughout the hills the mode of calculating the measure of land was based primarily on the quantity of seed required to sow it. The denominations therefore varied in area with the quantity and character of the land, and the confusion that ensued was still further heightened by the practice of remunerating the whole of the public servants by assignments of land in which the initial term varied in value with the class to which the assignee belonged. Of all these terms the *bísi* was most commonly used in Kumaon, and on it the present standard *bísi* has been founded. Another mode of calculation in common use was the number of sheaves (*bilkas*) that the land was estimated to produce which should correspond with the number of *nálís* in each *bísi*. The following terms were used in Kumaon, and were computed to represent the number of standard *bísis* annexed:—

Jhúla	...	3 to 12 *bísis*.	*Ali*	...	2·5 *bísis*.	*Taka*	...	0·5 *bísis*.
Bhara	...	2·5 „	*Bísa*	...	4· „	*Másha*	...	0·75 „
Ans	...	2·1 „	*Náli*	...	0·5 „	*Rini*	...	1· „

In Upper Dánpur the *bhara* was equivalent to six *bísis*, and required from six to eight *rinis* of seed to sow it, each of which weighed a maund. In Lower Dánpur the *jhúla* was used, and was equal to two to three *bísis*. In Juhár, the terms *kanch* or *tola*, *másha* and *raṭi* were used, and in Dárma the *swálo* was equivalent to 40 *nálís* or two *bísis*, the *wueṛa* to 30 *nálís* and the *khar* to 60 *nálís* of grain. In Shor and Síra, the *jhúla* was equal to six *bísis* of 40 *nálís* each; whilst in Gangoli the *jhúla* was only 2½ *bísis* of 40 *nálís* each. In Páli to the west of the Rámganga the *jhúla* contained six *bísis* and to the east nine *bísis*: here 40 *bílkas* made a

[1] Deodár oil and soap and coal-tar used outwardly.

Government *bísi* and 32 *bílkas* formed an *akra bísi*:[1] a *kárdewa bísi* required[2] 4 *pirái* of seed, an *akra* three, a *kama* five and a *danda bísi* two *pirái*, each of which contained 16 *nálís*.

In Garhwál, the denomination in use was the *jhúla*, but here, too, it varied in extent according to the description of person holding the land, according to the following list showing the number of *dons* of seed required to sow the *jhúla* of each class (a *don* is about a maund):—

	Dons.		Dons.
Thákurálí (chiefs) was equal to ...	16	*Kotkarhí* (militia)	12
Thání (principal land-owners) ...	12	*Tob* (regular troops) ...	10
Raulia (padháns)	8	*Kotiya* (followers) ...	6
Chákar (tenantry)	4	*Topchi* (huntsmen) ...	4
Tyargaín (temporary cultivators),	16	*Seuk* (personal servants) ...	4
Amrái (courtiers)	8	*Jágírdár* (grantees) ...	12

The *jhúla* was further divided into *chakrís* or fourths and *annas* or sixteenths. In the Níti valley they had a *damola* which represented six rupees, which was again divided into sixteenths.

Properly the *bísi*, as its name implies, should contain only twenty *nálís*, or that amount of land which requires forty *seers* or one maund of seed for its cultivation. After carefully considering the standards in use in the various parganahs the measure now known and established in Kumaon and Garhwál is the *bísi* of 4,800 square yards, or 40 square yards less than the English acre. Each *bísi* contains twenty *nálís* of 240 square yards and each *náli* sixteen annas of fifteen square yards. The *náli* is computed to contain the area that requires two *seers* (about 4¼ pounds) of grain for seed.

		Sq. yds.	Acres.	Roods.	Poles.	Yards.
1 *náli*	= 1	= 240	...	...	7	28¼
5 *nálís*	= 1 *máshi*	= 1,200	...	...	39	20¼
2 *máshis*	= 1 *bhadki*	= 2,400	...	1	39	10¼
2 *bhadkis*	= 1 *bísi*	= 4,800	...	3	38	20½
6 *bísis*	= 1 *chakri*	=28,800	5	3	32	12
2 *chakrís*	= 1 *jhúla*	=57,600	11	3	24	4

In the Bhábar, the land measures follow the use of the plains and there 20 *kachwánsis* make one *biswánsi* and 20 *biswánsis* make one *biswa* and 20 *biswas* make one *bígha*. Six *bíghas* are equiva-

[1] The *akra-bísi* was always considerably less than the common *bísi* owing to the practice of former Rájas who in making an assignment of land revenue-free invariably increased the nominal area of such lands in the grant. As these lands were successively reannexed to the revenue-roll the augmented area remained under the designation *akra* or revenue-free. Traill, March 17, 1821. [2] For Páli, to Government, dated 14th March, 1821.

lent to one acre and 64 yards or 4,904 square yards. In the Tarái 20 *gantas* of four feet each make one chain : one square chain is equivalent to a *bígha* and 6·8 bíghas make one acre.

Measures of capacity follow the same rule and grain is sold by bulk and not by weight :—

12 *muthiyas*=one *máná* or *chapiya.*
4 *mánas* =one *náli* (4¼ lb)
15 *nálís* =one *pírái.*
20 *nálís* =one *rini.*

In Garhwál the *náli* is called a *pátha*, and is subdivided as follows:—

		Ton.	cwt.	qrs.	lb.	oz.	bushel.	peck.	qts.	pints.
A handful or 1 *múthi*	=	...	...	...	....	1¼ =	...	...	...	$\frac{1}{12}$
6 *múthis* = 1 *adhúrhi*	=	...	...	...	...	8 =	...	...	...	½
2 *adhúrhis* = 1 *mána*	=	...	...	...	1	... =	...	...	...	1
4 *mánás* = 1 *pátha*	=	...	...	...	4	... =	...	...	2	...
8 *páthas* = 1 *kol*	=	...	...	1	4	... =	...	2	...	...
2 *kols* = 1 *don* or *pírái*	=	...	...	2	8	... =	1	...	...	...
20 *dons* = 1 *khari*	=	...	11	1	20	... =	20	...	...	...
20 *kharis* = 1 *biswa*	=	11	8	2	8	... =	400	...	...	...

The above measure is used for small quantities of oil, ghí, milk, liquor and unground grain.

In the sale of metals such as copper, brass, &c., the products of the country, the weight is commonly ascertained by a steel-yard. In this instrument the weight is fixed and the object to be weighed is moved along the lever which is divided into *pals* and *paisa* as follows :—

Weights.

6 *tolas*= 1 *pal.*
20 *pals* = 1 *dam* or *taka* about 2½ pounds.

The measure for gold, silver and precious stones is :—

4 grains of rice = 1 *rati.*
8 *ratis* = 1 *másha.*
12 *mashas* = 1 *tola.*

A rupee is equivalent to 13 mashas ; ten rupees are called a *kach* in Kumaon.

The Kumaon liquid measure is :—

1 *páli* = ¼ *chhatak.*		5½ *tolahs* = 1 *chhatak*	=	2 oz. or ¼ pint.	
12 *pális* = 1 *tami.*		4 *chhataks* = 1 *pao ser*	=	8 „ „ ½ „	
4 *tamis* = 1 *náli.*		4 *paos* = 1 *ser*	=	2 lb „ 2 „	
2 *nális* = 3 *sers.*		40 *sers* = 1 *man*	=	80 lb „ 5 pecks.	

The last is also used for grain in the bazár. The terms *adhser* (or half a ser), *dhari* or *panseri* (= 5 sers) are also used. The *náli* has been fixed in Kumaon at two sers of 84 standard rupees each. The Bhábar and Tarái ser contains 100 rupees and the

standard rupee contains 180 grains Troy weight. In the Tarái, 16 sers make a *kachcha* man and 40 sers a *pakka* man; there a *dhari* is two *panseri* and a *panseri* only two sers.

Besides the division of rupees into annas and pice, which are the same all over the British possessions, an anna in Garhwál is subdivided into two *takka* or 4 pice, each pice into two *kachchi* or four *dhelas*; 20 cowries (shells) go to one *dhela*. Another mode formerly in use was four annas make one *timáshi*, two *timáshis* one *dheli*, two *dhelis* one *kachcha* rupee and five *timáshis* one *kuldár* or milled Farukhabad rupee. The Tibetan or Lhása *timáshi* weighs 40 grains, and one hundred of them are worth Rs. 23-7-9 of our money. The old Gorkháli *timáshis* weighed 33·2 grains each, whilst the modern Nepál *timáshis* still current in parts of the hills are of less value, one set being worth little more than nineteen and the other about nine rupees per hundred. The old Srínagari rupee weighed 85·5 grains.

The Bhotiyas in their transactions with Tibet have peculiar measures of their own. Grain, salt, and borax are sold by measures of capacity thus:—eight *múthiyas* make one *phúrúwa:* eight *phúrúwas* one *de* and twelve *de* one *dobu* or *guama*. The *dobu* is about equal to the *kachcha* maund of twenty sers and for some articles contains only eighteen *de*. Within the passes, these articles are sometimes estimated by the *karbach* (*phánchа*) or saddle-bag taken at four *nálís*.

Grain is also computed by the *suyator* or large *karbach* at 20 *nálís; swalò* or basket at 60 *nálís* and *tahanch* or skin at 60 *nálís*. Wool, sugar, and hardware are weighed by the steel-yard which is divided into *nega*. The *nega* is equal to ten sikka rupees weight. Prepared tobacco, raw sugar, &c., are divided into small cakes called '*pola*' or balls called '*beli.*' Cloth is measured by the '*thu*' or cubit or the '*khák*,' '*khagam*' or breadth. In fine goods the price is computed at eight '*khák;*' in coarse calicoes at 28 '*khák.*' Broad-cloth is commonly sold by the '*baku*' equal to two breadths and is so called from the quantity required for a robe of that name. Gold is calculated by the *larswo* or *phatang* equal to 7½ *máshas* (112·5 grains Troy). Gold-dust tied up in *phatangs* is current as coin for eight rupees. Silver is computed at the *jyú* or *timáshi* (three *máshas*) and four *jyú* make the current rupee or '*gormá*' called *ganga-tasi* here. In large payments ingots called *lakka* or *doja* are used, worth about 165 rupees each.

A cloth-measure standard was introduced into Kumaon by Mr. Traill who made the *gaj* equal to the English yard :—

8 barleycorns	equal	one angal	or	⅛ inch.
3 angals	ditto	girah	or	2¼ do.
4 girahs	ditto	bilast	or	9 do.
2 bilasts	ditto	háth	or	18 do.
2 haths	ditto	gaj	or	36 do.

Five *gaj* make a *báns* (bambú) or 2½ fathoms. A *kos* is supposed to be equal to 1½ miles; *goli ke tappa* or gunshot is about 200 yards; a *bisona* or resting place for a coolie about 3 miles; a *tirwa* or arrow's flight about 100 yards; a *bhát khane ke wakt*, or as far as a man can travel before his eating time, about 7 or 8 miles. In the Tarái, a *kos* is equivalent to 1¾ miles English.

The Saka era is in common use, though that of Vikramáditya is observed by those who adhere to the use of the plains. A fortnight is called a *paksh*, *pak* or *pachya*, the dark half is known as the *krishn-paksh* and the light half as the *sukl-paksh*. From 7 to 8 A.M. is called *chilkauli*; noon, *dopáhar*; 4 P.M. *brahkali ber*; 5 to 6 P.M. in winter and 6 to 7 P.M. in summer is *sánj*. In general 60 *pals* or *chakhas* make one *garhi* (about 24 minutes); 7½ *garhis* make one *páhar* and four *páhars* one day of 12 hours. Two months make a *ritu* or season; three *ritus* an *áyan* or half a year; that from Sáwan to Pús is called the Dakhináyan and from Mágh to the end of Asárh the Utaráyan. Twelve years are called a Kúmb or guru-kalp or chota yúg : 30 years a *pírhí* or *sakhí*.

Trade.

The foreign trade with Tibet has been noticed at some length in the article BHOTIYA MAHÁLS. There remains the foreign trade with Nepál which centres at Jhúla-ghát near Pithoragarh and at Barmdeo where the Sárda debouches on the plains. The statistics for Barmdeo commence from 1876-77 and those for Jhúla-ghát from 1878-79, and are as follows in value in rupees :—

	1876-77.		1877-78.		1878-79.		1879-80.		1880-81.		1881-82.		1882-83.	
	Ex.	Imp.	Ex.	Imp.	Ex.	Imp.	Ex.	Imp.	Ex.	Imp.	Ex.	Imp.	Ex.	Imp.
Barmdeo.	57,000	67,000	74,356	60,655	78,626	86,189	88,647	107,326	98,540	101,810	96,298	113,985	98,640	135,651
Jhula-ghát.	...	..	...	...	12,525	12,799	23,673	13,313	15,291	28,686	18,174	21,516	23,480	19,904

The imports consist for the most part of wild forest produce, fibres, turmeric, grain, ghí and spices, and the exports of cotton

goods, metals, salt and sugar. The import of drugs in 1881-82 amounted to 1,552 maunds, valued at Rs. 9,869, and in the following year to 2,824 maunds, valued at Rs. 17,797. Dyeing materials (turmeric, &c.) and fibres were imported in 1881-82 to the value of Rs 6,691 (1,041 maunds) and in 1882-83 to the value of Rs. 10,879 (1,847 maunds). Grain valued at Rs. 1,106 and metals valued at Rs. 566 were imported in 1881-82, and to the value of Rs. 647 and Rs. 509 respectively in 1882-83. *Ghí* or clarified butter weighed 2,076 maunds, valued at Rs. 41,590 in 1881-82 and 1,988 maunds, valued at Rs. 39,760 in the following year: 2,299 maunds of spices, valued at Rs. 43,833 were imported in 1881-82 and 2,522 maunds, valued at Rs. 48,506 in the next year. The exports in 1881-82 comprised 1,406 maunds of cotton goods, valued at Rs. 81,050; 4,382 maunds of salt valued at Rs. 19,039; 1,507 maunds of sugar, valued at Rs. 7,078; metals worth Rs. 3,315 and tobacco worth Rs. 1,015. The figures for 1882-83 are 1,388 maunds of cotton goods, valued at Rs. 80,086; 4,480 maunds of salt, valued at Rs. 16,749; 2,097 maunds of sugar, valued at Rs. 6,465; metals worth Rs. 7,155; tobacco worth Rs. 1,156, and rupees worth Rs. 9,208. The exports to the plains consist principally of turmeric, ginger, oil-seeds and potatos, and in return metals, cotton and woollen cloths, sugar, spices, tobacco, and European manufactured articles, are received.

Traill's account of the local trade with the plains in 1821 (to Government, 25th April) shows the practice sixty years ago, but modern necessity obliges the agency of specialists to make the ventures profitable now:—

"The exports, which comprise the common production and manufactures of the plains, are furnished to the fullest extent of the demand through the trade carried on by the hill landholders. Nearly the whole population of the province from the highest rank to the lowest engage annually in this traffic. The members of three or four neighbouring village communities generally form common stock, the disposal of which is entrusted to the discretion of one of the pattis concerned. The original fund consisting commonly of copper, iron, turmeric, ginger, and other hill productions together with a proportion of ready money is exchanged at the nearest marts in the plains for cotton cloths, chintz, sugar, tobacco, salt and hardware. This return cargo after supplying the wants of the villages engaged in the speculation is disposed of at the fairs of Bágeswar and Askot, where the proceeds are usually laid out in the purchase of borax, the re-sale of which and of the returns from the plains completes the transaction of the season. As these traders are their own carriers and are satisfied with moderate profits, they are

enabled to outbid the regular merchants and in consequence prove a favorite class of dealers with the Bhotiyas when the latter are not fettered by pre-existing engagements."

Beer.

There are two breweries in the district, one at Naini Tál and one at Ránikhet. The brewery at Seoni was open from 1879 to 1881 only. The Naini Tál brewery was established in 1876 and the Ránikhet brewery in 1878. The following figures show the estimated outturn in gallons of ale, beer and porter in each year:—

	1877.	1878.	1879.	1880.	1881.	1882.
Naini Tál	108,000	108,000	81,000	71,712	134,622	142,020
Ránikhet	...	...	70,000	61,560	68,850	66,420
Total ...	108,000	108,000	151,000	133,272	203,472	208,440

Tea.

Some account has already been given of the history of tea-cultivation in Kumaon. The following table gives the statistics of any value regarding the outturn that have been collected of late years:—

Year.	Number of plantations.	Area in acres under tea.	Area taken up but not planted.	Outturn in lb per acre.			Average lb per acre.
				Black.	Green.	Total.	
Kumaon.							
1875*a*	19	2,211	1,699	94,551	183,871	278,422	183
1876	19	2,222	1,689	64,104	196,956	2610,60	169
1877	...	2,300	2,386	226,483	107,264	333,747	162
1880	33	3,342	...*c*	...	...	...	...
1881	33	3,342	...*c*	...	...	...	...
1882	43	2,825	556	371,125	37,510	408,635	199
Garhwál.							
1875*a*	4	13	...	4,648	...	4,648	357
1876	4	13	...	4,891	...	4,891	376
1877	...	...*b*	...*b*	...*b*	...*b*	...*b*	...*b*
1880	21	634	...*c*	...	...	...	...
1881	21	634	...*c*	...	...	...	...
1882	10	501	107	72,912	...	72,912	149

(*a*) The figures for 1875-76 exclude 6 gardens in Kumaon and 3 in Garhwál.

(*b*) Included in Kumaon.

(*c*) No information.

Prices.

In the earlier days of British rule the want of good roads and great demand for grain for the supply of the troops and the Tibetan trade combined to raise the price of grain in Eastern Kumaon beyond that obtaining in the neighbouring provinces of Doti and in Garhwál.[1] Mr. Traill writes[2]:—

"The dearness of carriage forms an insurmountable obstacle to a general exportation of grain, from this cause wheat is selling in the interior of Garhwál at the rate of two and a half maunds to the rupee, while the market price of grain of a similar quality at and near Almora is thirty-two sers to the rupee." The following table gives the prices in 1819:—

Price-current of grain in the Province of Kumaon.

	Wheat.	Coarse rice.	White rice.	Fine rice.	Urd.	Bhut.	Mándua.	Barley.
	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.	M. s.
Almora and neighbouring parganahs.	0 27	0 22	0 20	0 14	0 22	0 28	1 8	...
Káli Kumaon and east parganahs.	0 24	0 19	0 19	0 11	0 20	0 30	0 30	...
Shor, north-east parganahs.	0 26	0 20	0 20	...	0 25	0 28	1 0	1 0
Srínagar ...	1 25	0 35	0 30	0 20	1 0	2 0	2 5	2 25
Chándpur, north-west parganahs.	2 10	1 4	1 0	0 20	1 4	1 25	3 30	3 30
Dhángu, south-west parganahs.	0 30	0 25	0 22	0 16	0 35	1 2	1 16	...

In 1823 we find for wheat that twenty-five sers for the rupee in Almora represented two maunds in Garhwál. In 1825, the price at Almora never fell below 28 sers, and in Garhwál two maunds, whilst in Páli red rice sold at 27 sers, white rice at 24 sers and wheat at 33 sers per rupee.

Fairs.

The principal commercial fairs are held at Bágeswar and Thal, but besides these there are numerous less important assemblies where business and

[1] To Government, dated 15th February, 1820. [2] To Government, dated 1st March, 1816.

religion are combined, of which those given in the following table are the principal :—

Patti.	Name of fair.	Where held.	When held.	Duration of fair.	Number of persons usually attending.
Malla Dora ...	Bibhándeswar ...	Bibhandeswar ...	12th March ...	1 night...	3,000
Ditto ...	Ditto ...	Siyál de ...	14th March ...	1 day ...	8,000
Ditto ...	Maháshtami ...	Dunagiri ...	October,	Do. ...	2,000
Giwár ...	...	Sobnáth ...	6th May ...	Do. ...	5,000
Ditto ...	Mágh Purnima ...	Agneri ...	12th February,	Do. ...	1,000
Chaukot ...	Karttik do. ...	Briddh Kedár ...	15th November.	1 night...	3,000
Náyán ...	Shiurátri ...	Bhikiya-sain ...	25th February,	Do. ...	500
Sult ...	Karttik Purnima,	Sult Mahádeo ...	15th November.	Do. ...	5,000
Silaur ...	Ditto ...	Mahádeo ...	Ditto ...	1 day ...	3,000
Ditto ...	Bijaya 10th ...	Kankhali ...	12th August,	Do. ...	2,000
Talla Dora ...	Baisákh Purnima,	Baluwa ...	22nd May ...	1 night...	4,000
Ditto ...	Pús-ke-itwár ...	Nágárjun ...	15th December.	Do. ...	3,000
Kairarau ...	Maháshtami ...	Udepur ...	10th August,	Do. ...	2,000
Ditto ...	Jamadwitiya ...	Bagwáli-pokhar...	3rd November,	1 day ...	2,000
Borarau ...	Karttik Purnima,	Gananáth ...	15th November.	1 night...	3,000
Ditto ...	Ditto ...	Parath ...	15th November.	Do. ...	1,500
Talla Syunara ...	Shiurátri ...	Deothal ...	25th February.	1 day ...	2,000
Do. Tikhún ...	Pús-ke-itwár ...	Katarmal ...	15th December.	Do. ...	5,000
Phaldakot ...	...	Kakrighat ...	6th May ...	Do. ...	4,000
Dhuraphát ...	Baisákh Purnima,	Buján ...	22nd May ...	Do. ...	2,000
Bisaud ...	Ditto ...	Kapleswar ...	Ditto ...	Do. ...	2,000
Chhakháta ...	Uttrayini ...	Chitrasila ...	13th January.	1 night...	5,000
Ditto ...	Kark Sankrant ...	Bhím Tál ...	14th July ...	1 day ...	3,000
Ditto ...	Kailas ...	Kailás ...	25th February.	1 night...	2,000
Kháspurja ...	Janmáshtami ...	Almora ...	2nd August,	3 days ...	6,000
Ditto ...	Nandáshtami ...	Ditto ...	10th September.	Do. ...	8,000
Darun ...	Baisákh Purnima,	Jageswar ...	22nd May ...	1 night...	4,000
Katyúr ...	Nandáshtami ...	Ranchula ...	10th September.	Do. ...	3,000
Ditto ...	Uttrayini ...	Bágeswar ...	13th January.	3 days ...	7,000
Ditto ...	Shiurátri ...	Ditto ...	25th February.	1 day ...	300
Ditto ...	Dasahra ...	Ditto ...	16th June ...	Do. ...	2,000
Gangoli ...	Shiurátri ...	Patálbhubaneswar.	25th February.	Do. ...	1,000
Ditto ...	Maháshtami ...	Kalika ...	10th August,	Do. ...	1,000
Shor ...	Baisákh Purnima,	Rámeswar ...	22nd May ...	Do. ...	3,000
Síra ...	...	Thal ...	14th April ...	3 days ...	5,000
Chálsi ...	Sáwan Purnima...	Debi-Dhúra ...	18th August,	Do. ...	6,000
Shor ...	Haritáli ...	Dhuj ...	Ditto ...	1 day ...	500

Education.

Mr. Traill in 1823 writes:—"There are no public institutions of the nature of schools, and private tuition is almost entirely confined to the upper classes. The teachers are commonly Brahmans who impart to their scholars the mere knowledge of reading, writing and accounts. The children of respectable Brahmans are also taught Sanskrit and are occasionally sent to Benares to complete their studies where they pass through the usual course of Hindu education." It was not until 1840 that a beginning was made of the present system of public schools by the establishment of one at Srinagar, the cost of which (five rupees a month) was borne by the unclaimed property fund.[1] After some communication with the Education Committee then sitting in Calcutta, schools were established, costing Rs. 20 a month in Kumaon and Rs. 14 in Garhwál.[2] Still there must have been a considerable amount of private instruction, for Thornton's report in 1850 based on returns furnished by Messrs. Batten and Ramsay show for Kumaon and Garhwál 121 Hindi and Sanskrit schools held in private dwellings, or the houses of the teachers who numbered 121, of whom 54 taught gratuitously and 67 had fixed incomes averaging Rs. 9-8 per mensem. There were 522 pupils, over four-fifths of whom were Brahmans. In addition there was one school with ten pupils, in which Urdu was taught. In 1857, the present system was inaugurated by the formation of the Kumaon circle under the Department of Public Instruction, and since then the progress has been marked and steady, and fully supplies the wants of the people in this respect. The establishment of the school cess at the revision of the settlement in both Kumaon and Garhwál enabled the authorities to plant schools in which no fees are levied in every sub-division. The average maximum age of the pupils attending the schools is 16, the minimum 6 or 7 years. The average period during which pupils attend school is about 6 or 7 years. The attendance is very irregular as the aid boys can give in the farm and household is so valuable as to be with difficulty dispensed with. The good effected by education is already visible in the increased intelligence shown by the rising generation of young men who have attended the schools, the

[1] To Government, dated 8th July, 1840. [2] Government, No. 475, dated 28th May, 1842.

decrease of bigotry and superstition and the increased desire for schools as shown by the applications for their establishment. Parents wish that their sons should be taught Hindi and English; there is very little desire for Hindustáni. The spread of education has done much to undermine the influence of the Bráhmans which was formerly so absolute in this province.

At Naini Tál there is a Diocesan school for European boys with 124 pupils and a girls' school of the same description with 85 pupils beside private schools. The educational operations of the Almora, Naini Tál, and Ránikhet Missions as given in their reports are noticed elsewhere. There are several printing-presses in Naini Tál: the Government Press during the residence of the Lieutenant-Governor is used for official purposes: the *Naini Tál Gazette* Press and others print for the public. At Almora, the *Almora Akhbar* Press prints in Urdu and Hindi and lithographs in English. At Ránikhet the Press of the Regiment quartered there prints in English. In 1871-72 there were 23 tahsíli schools with 1,815 pupils, 23 halkábandi or village schools, with 1,787 pupils, and one girls' school with 21 pupils, all supported by Government. The aided schools were two Anglo-vernacular at Almora and Naini Tál, seven vernacular near Ránikhet and one female school. The figures for 1884 show six tahsíli schools with 541 pupils; 110 halkábandi schools with 6,270 pupils and one female school with 64 pupils. The aided schools comprise fourteen Anglo-Vernacular schools with 1,462 pupils and two vernacular schools with 179. The entire cost of education for the year amounts to Rs. 40,173. The supervision of the schools is under a native Inspector assisted by deputies. "There is great difficulty," writes Sir H. Ramsay, "in bringing education within the reach of all, though we do not attempt to teach more than to read and write, and arithmetic of the simplest kind. Under present circumstances this is sufficient for the mass of the people, and if any sharp boy wishes for a higher education which his father cannot afford, he can obtain a scholarship to the Almora school where a boarding-house for out-pupils has been established. Teachers in the halkábandi schools receive only five rupees a month. This is sufficient to procure men capable of teaching all that is aimed at, and it is considered more beneficial to impart to many the *useful* knowledge of reading and writing sufficient for their *every-day*

use than to give a smaller number a better education by employing qualified but more expensive teachers. * * The better classes who are desirous of educating their children well, can afford to pay for them, and though our education was said to be in a state of backward simplicity, Kumaon can, I believe, boast of a higher percentage who can read and write than any other district in the province."

Kuphini or Kushini, a feeder of the Pindar river, rises from a glacier amid the south-east recesses of the Nandakot peak and joins the Pindar on the left bank at Diwáli in north latitude 30°-10′-35″, and east longitude 80°-2′-10″ in Patti Malla Dánpur of Kumaon. At the confluence the united stream in the rains is of a dirty milk colour, and the bed is obstructed by some great boulders. The two rivers are separated by a ridge culminating in a peak having an elevation of 17,130 feet. The left bank of the Kuphini is formed by the Kotela ridge, the summit of which, (14,515 feet) far above the forest region, commands the Pindar to its source and communicates by a goat-path with the Dhákuri-Bináyak : see PINDAR.

Kuthi-Yánkti, the longest and most important branch of the Káli river in Kumaon takes its rise in a small glacier at the southern base of the Lunpiya-lekh pass from Patti Dárma Malla into Húndes in north latitude 30°-28′ and east longitude 80°-38′. This spot was visited by Webb, and is thus described by him : "The river, two furlongs distant, its breadth reduced to four or five yards : at two and a quarter miles in a north-west direction, it is covered with snow, and no longer to be traced ; neither is the road passable beyond this point at the present season. After the middle of July, when the thaw is perfected, it may be traced as a small stream for about four miles more, in the direction last mentioned, and from thence to its head in the snow, north-west two miles farther. The stream scarcely flows in winter, being derived almost exclusively from the thawing snow." The Lunpiya-lekh pass itself has an elevation of 18,150 feet. The river takes a south-easterly direction through the Byáns valley to its junction with the Káli, thirty miles from its source. It receives numerous snow-fed torrents on both banks passing by the encamping-grounds of Walshiya, Jhamáthi, Rárab, Jolinka, Sangchúma and Kuthi,

whence it derives its name. To the right and left of the Kuthi-Yánkti there are peaks over 20,000 feet high and the entire valley is bordered by glaciers from which torrents flow into the Kuthi river. At the confluence with the Káli, the latter has a bed 150 yards wide, but contracting into much narrower limits a mile further up so that the stream in September is all but fordable. The Kuthi river is a third larger than the eastern branch, both in size of channel and volume of water, and nearly four times the length from source to confluence; notwithstanding which the eastern and smaller branch has given its name to the united river. The Gyukdhúra pass from Sela of Dárma to Kuthi in Byáns up the Pechko-Yánkti and by the Chachingti encamping-ground is still used, though difficult.

Ladhiya, a tributary of the Káli river in eastern Kumaon takes its rise in Patti Malli Rau and parganah Dhyánirau on the southern slopes of the range along which passes the road from Dol to Devi-dhúra in north latitude 29°-26′ and east longitude 79°-49′. It has a south-easterly course through Chaubhainsi, Malli Rau, Talli Rau, Palbelon and Tallades to its junction with the Káli on the right bank in north latitude 29°13′ and east longitude 80°-18′. Its only considerable affluents are the Ratiya-gádh which joins it on the left bank near Chaura in Talli Rau and the Kuirála river which joins it on the same bank in Palbelon. A much frequented road to the Bhábar passes down the left bank of the latter stream crossing the Ladhiya by a suspension bridge below their confluence at Chalthi and thence by Bastiya to Tanakpur in the Bhábar. Lower down the Ladhiya is joined by the Bábkola river also on the left bank; and is here crossed by the road from Champáwat to Barmdeo much used by the Bhotiyas in their winter migrations. There are considerable tracts of good irrigated land all along its course and the courses of its tributaries which yield rice of excellent quality.

Lakhanpur Talla, a patti of pargan ah Chaugarkha in Kumaon. is bounded on the north by patti Syunara Malla and Ráthágár; on the south by patti Khaspurja, Uchyúr and Malla Lakhanpur; on the west by Khaspurja, and Talla Syúnara and on the east by Dárún. This patti was separated from Lakhanpur at the recent settlement. It is drained by the Likhwargádh, a tributary of the Suwál river, and is traversed by the Pithoragarh and Askot roads.

For statistics see LAKHANPUR MALLA. The patwári resides at Alai, where there is a school.

Lakhanpur Malla, a patti of parganah of Chaugarkha in Kumaon, is bounded on the north by the Talla patti of Lakhanpur; on the west by Uchyúr and Mahryúri Malla; on the south by Sálam Malla and on the west by Dárún. This patti was formed from Lakhanpur at the recent settlement. It is drained by the head-waters of the Suwál river. The road to Lohughát passes by Julna tea-plantation, and that to Pithoragarh by Panuwa-naula on the extreme northern boundary. The statistics of the Malla and Talla pattis may be shown thus:—

Lakhanpur.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.*		Cultur-able.	1815.	1820.	1840.	Cur-rent.	Males.	Fe-males.
		Irrigat-ed.	Dry.							
Malla ...	3,588	45	2,527	1,016	590	869	1,070	2,632	2,757	2,414
Talla ...	2,658	113	1,687	858	425	745	858	2,063	1,694	1,502

Besides the above, 140 *bísis* are exempt from land-revenue in the Malla Patti, and 137 in the Talla Patti. The land-revenue falls at Re. 0-15-5 per acre on the assessed cultivation in the former and at Re. 1-4-8 in the latter. Brahman village communities are numerous in this patti, especially those belonging to the Joshi, Tiwári and Pánde clans. The first hold Ulai Joshi and others in *muáfi* The patwári resides in Bina: there are schools at Gailakot and Bina.

Láldháng, a police station and forest station at the mouth of the Rawásan nadi in Patti Udepur Bichhla of parganah Ganga Salán in British Garhwál, is situate in latitude 29°-52′ and longitude 78°-21′. The Bijanagar peak on the right bank of the nadi rises to a height of 1,982 feet. The road from the Srínagar and Hardwár road to Kotdwára crosses the Rawásan close to the station. The village of Láldháng itself lies in the Bijnor district.

Landhaur or Landour,[1] a convalescent depôt for British troops adjoining Mussoorie, is situate in north latitude 30°-27′-30″ and east longitude 78°-8′, partly in Dehra Dún and partly in Tíhri, with an area of 1,048 acres. In February, 1881, the population num-

[1] I am indebted for much of this notice to Mr. F. Fisher, C.S.

bered 1,746 (436 females ; of whom 1,078 (265 females) were Hindus, 556 (125 females) were Musalmáns ; and 112 (46 females) were Christians. This was before the annual draft of convalescents had arrived. In September, 1880, the population numbered 4,428 (1,074, females) ; of whom 723 (330 females) were Christians. The cantonment is built on the sides and crest of a range immediately adjoining Mussoorie. The highest point, a peak on the north-western boundary, is 7,534 feet above the level of the sea. To the east on the road to Tihri are two peaks having an altitude of 7,699 and 8,569 feet respectively. The latter is known as Topṭíba. Landhaur is reached from Rájpur by the ordinary road to Mussoorie which branches off at Barlowganj to Landhaur on the east and the Mussoorie Library on the west. For all ordinary purposes the two are now one town, for the boundary line near Landhaur post-office passes through perhaps the most thickly populated part of the station. The Landhaur bazár extends from the post-office to Mullingar, that part of the cantonment in which the Caledonian Hotel is situate. From this last point to the Church the approaches are very steep, one road leading to the west in an almost direct ascent passing the orderly-room and convalescent barrack, and the other taking an easterly direction just above the lower Tihri road zigzags up the side of the southern declivity and meets the first road at the Church. From this point, a road almost level throughout, runs round the northern peak, and a second road which similarily skirts the southern peak of Lál-ṭíba is connected with it by a cross road near the depôt guard-room. Beyond this second road is a third which skirts the hill where the hospital is situate at the extreme east of the cantonment. The length of the roads completing the circuit of the three hills is 2 miles 6 furlongs 74 yards.

The Landhaur hills are not only better wooded than the Mussoorie hills, but also afford finer views, and are by some regarded as more healthy, being less built upon, or rather the houses are further apart and do not overlook each other. The climate is excellent, except during the rains and the sanitation is good, due to the natural facilities for drainage and the absence of a clayey soil, so that the roads rapidly dry even after the heaviest rain. With the exception of pulmonary and rheumatic cases and

advanced stages of organic disease, nearly all maladies appear to be ameliorated in this climate. The permanent residents appear to enjoy as good health here as they would in England. Beyond colds, disease is rarely contracted, and cholera is never endemic, and is unknown except in the few cases where it has been imported from the plains, but even then it does not become epidemic. The public buldings include St. Paul's Church, the Roman Catholic Chapel, post-office, telegraph office, and some twenty-six barracks. The depôt was established in 1827, and has now accommodation for 22 families (including Staff-Sergeants of depôt) and 203 single men, of whom eight families and 27 single men usually remain for the winter. The buildings include male and female hospitals, library, coffee shop, reading-room, orderly-room, school, guard-room, and theatre. There is a Commandant and Station Staff Officer, with a Medical Officer and Chaplain. The Commandant exercises the powers of a Cantonment Magistrate for petty offences within the limits of cantonment, and provides for the conservancy and arrangements of the bazár, which is a large one and usually very well stocked with supplies and manufactured goods.

The receipts of the Landhaur Cantonment Fund for the year 1882-83 amounted to Rs. 5,933, of which Rs. 1,321 were raised by a watchman's-tax ; Rs. 2,083 by a house-tax ; Rs. 960 by octroi, and Rs. 297 by voluntary subscriptions ; Rs. 1,000 were received from the Imperial Government as a grant in aid for arboriculture, and the remainder was received on account of fines and miscellaneous dues. The expenditure during the same period amounted to Rs. 4,899, of which police absorbed Rs. 688 and Rs. 2,903 were devoted to conservancy and other establishments such as tree-tending, gardens ; Rs. 900 were devoted to public works, and Rs. 408 to miscellaneous purposes.

Dr. F. H. Fisher, in 1831, gives the following readings for that year from a thermometer kept in an open verandah facing north :—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Maximum ...	47°	48°	64°	76°	85°	86°	70°	72°	69°	70°	62°	50°
Minimum ...	31	31	40	44	60	60	61	59	54	51	42	30

Langur, a patti of parganah Ganga Salán in British Garhwál, is bounded on the south by pattis of parganahs Talla Salán; on the east by parganahs Bárahsyún and Chaundkot, and on the west and south by other pattis of the same parganah. The two roads from Kotdwára to Srínagar, pass through Langúr and meet at Dwárikhál, whence one crosses the Nyár by Bilkhet and the other by Marwára. There are schools at Gúm and Páli. In the centre on the highest peak (6,207 feet) are the remains of the two forts which held out so long against the Gorkhális. The garrisons were under the command of the Aswál *thokdárs* of Síla, a powerful sept, so much so as to give rise to the local saying :—

'Adha ke Garhwál adha ke Aswál.'

'Half is Garhwál, half is Aswál.' The Khoh and an affluent of the Maidi rise on the southern side of the central group and both have fair open valleys. The northern slopes are steep and run down to the Nyár, but there are flats along the bank. The patwári usually resides at Diúsa and also collects the land-revenue of Karaundu Walla.

Lebun or Libaung, a lofty ridge culminating in the peak of Yírgnajang, separates Patti Byáns from Patti Malla Dárma, both in parganah Dárma of Kumaon. It runs in a direction slightly south-east from the dividing range between Kumaon and Húndes to the west of the Lunpiya-Dhúra pass into Hundes from Patti Byáns. It is crossed by a difficult pass up the Jhuling-Yánkti from Jolinka (14,350 feet) in the valley of the Kuthí-Yánkti in Byáns to Khimling in Dárma having an elevation at its crest of 18,942 feet. Webb, who crossed it in June from Byáns found "a steep, difficult and fatiguing ascent, the lower part over beds of ice, the higher over deep and perpetual snow frozen hard. Severe oppression in breathing, unable to proceed twenty paces at a time without halting." Still higher up he found the ascent "steep with recent snow in parts knee-deep." The whole of the distance (2,032 yards) down, on the Dárma side, was excessively steep and the snow nearly knee-deep. The declivity was so great that it was necessary to employ people with hatchets to make small hollows in the snow where hard, in which the foot might be placed. As in the ascent all had felt intolerable difficulty in breathing, so in the descent a violent determination of blood to the head with

severe pain was general. The passage occupied twelve hours for people without loads; none of the laden bearers came up before the second day, and some loads not until the second evening. H. Strachey distrusts the height given here, and notes that two natives of Sipu crossed it in September with difficulty doing three *kos* in six days over very deep snow. His estimate is 16,942 feet. North latitude 30°-20′-15″. East longitude 80°-40′. Colonel Smythe crossed it in June, and made the elevation 19,600 feet. He had no difficulty in breathing though there was a slight snow storm at the top, and the fresh snow was knee-deep wherever the surface was at all level.

Lipu-lekh, the most eastern pass from Kumaon into Húndes, is situate in Patti Byáns in north latitude 30°-13′-49″ and east longitude 81°-4′-50″, at an elevation of 16,780 feet above the level of the sea. See KÁLAPANI, PURÁNG. The following account of a visit to the pass in July, 1877, will be interesting:—

"The night before ascending the pass was spent in a narrow desolate plain, just the only spot which the snow-drifts lying all round have left untouched. From this place, called Sangcha, the way lies first across a moderate snow-field which was settled in the hollow between two ridges projecting from either side of the pass; then along a gentle slope over which and on both sides of it the snow lies thickly, filling the head of the valley like the *névé* of a glacier. Owing to the softness of the surface, the walking is heavy, though the slope is by no means steep. After you are three-fourths of the way, it is plain sailing over the glacier, which is in many places firm and gives good footing. It is only lower down, where the snow is a little too soft, that we often sank in it up to our knees. As we approched the pass, the snow lay pretty uniformly and often very deep. The latter part of the glacier was another gentle slope, leading over the white cowl of the mountain to the summit, which was marked by a cairn of stones surmounted by flags. A few red-beaked ravens were circling about overhead, apparently unaffected by the rarity of the atmosphere (the elevation of the pass is 16,500 feet above sea level), as they seemed to fly with just as much ease as in the vicinity of villages. A couple of Huniyas leading a flock of sheep laden with salt were coming up from Taklakot, walking carefully over the snow fields which sloped up to the pass. Two Taklakot officials as they reached the summit, and caught the first view of the solitary peak of Numunanhil (Gurla, the Momanangli of H. Strachey) above the table land of Taklakot, raised their hands and uttered what seemed a prayer. The view of Tibet from the crest of the pass, formed as it were by the vast shoulders of the snowy range, is very striking. For a short while the mist rising from the valleys had nearly blotted out the lower landscape; but the white, and in some places purple, outline of the summit of Numunanhil was sharp against a clear blue sky, the plain beneath looking very faint, till the sun beat on it, when it appeared of a light-red colour, without a tree or a vestige of vegetation on it. The eastern spurs of this mountain enclosed a valley which was filled with bluish mist. Taklakot itself is not visible from the pass

—a dark ridge of a slate colour, streaked with snow, shuts out the view in that direction; but a couple of houses are seen on a bare plain west of the town. On the southern side the view embraces the mountains both in Nopál and along the watershed of the Dárma and Byáns valleys, which are much higher than any in Tibet; the northern ranges gradually sinking in elevation, till faint and blue in the distance gleam the bare undulating hills of Tibet. South of the ridge which forms the watershed of the Káli and Tibetan rivers there are several deep glens filled with snow and relics of glaciers; bare rocks here and there, and crags rising to a prodigious height, being several thousand feet high, barred black and red, and capped with snow or scanty turf. Valleys of this kind are common in this mountain cluster, presenting an appearance of having been scooped out of the mass. They probably owe their origin to the primeval glaciers, as the streams which at present flow from them are insufficient to account for them. There must have been a great upheaval of the primary mountains of the snowy range subsequent to the deposit of the sandstone formation of Tibet. The rock on the pass and on the ridges north of it is a variety of red sandstone, and belongs to formations entirely foreign to the Himálaya.

The night we spent at Sangcha at the foot of the pass was intensely cold, and we could not light a fire. Returning to Kálapani the next morning, we had to fight against a violent south wind, and towards evening the atmosphere again became decidedly chilly, the thermometer standing at 22°. The scenery on the route from Kálapani to the pass is neither beautiful nor sublime; it is simply fantastic. The crags start up from the bed of snow-covered streams and rise to 2,000 feet, or where there are no crags there are steep slopes of loose *débris*, or bare rocks splintered into fragments and weathered almost to disintegration, while here and there you will see the jagged edge of a projecting cliff overhanging a deep gorge. Such are the features of the strange, chaotic scene around. The cliffs are iron black, belted with red sandstone stripes. I noticed in one place a remarkable rock composed of red sandstone, attaining a great elevation, with a band of granite columns apparently wreathed round it in a spiral form. On my way to the pass, I made several excursions to mountains lying off the road. One of these was a series of stratified crags, and there was only a rude goat track, in many places obliterated by snow, which led to the summit. We passed a few birch trees, torn and battered by the storm, then a few dark-green juniper bushes; and when we had accomplished half the ascent, the ground was covered by a profusion of most beautiful flowers, and especially of the most lovely auriculas of deep-violet hue. From the summit all round there is a wonderful view of snow-clad peaks. The highest mountain visible is one in Nepál called Nampa. It is a smooth, rounded, snowy summit of great beauty and silvery whiteness rising to 23,600 feet. Then there is one on the west bank of the Káli, called Khandadhura; it rises high into the air in the form of a single polished mass, with a bold indented ridge. All the lateral valleys in Western Byáns are enclosed by ridges, whose tops are marked by pointed dark-coloured rocks such as might be shown in water-colours by Indian red and lamp-black, or they are sharp like a knife, or they look like decayed pillars with their capitals built by the gods themselves. If you go up any great elevation, this is the kind of view you have: you look down upon a whole landscape in ruins, a vast labyrinth of desert hills and valleys, "a great and terrible wilderness" in the fullest sense of those words. All is wild, naked, and desolate."—*Pioneer.*

Lipu or Lipu-ke-Thán, a very difficult pass in Patti Goriphát of parganah Juhár in Kumaon between Raráo-gár and Lílam in latitude 30°-10′-30″ and longitude 80°-16′-50″ with an elevation of 9,127 feet above the level of the sea. The route is here inclosed between the shoulder of one of the Himálayan peaks rising on the western side and the rapid course of the Gori on the eastern side: and the principal path lies over large fragments of rock. It is seldom used now, a more direct and safer line having been chosen.

Lohba, also known as Gairsen and Ríthiya from the neighbouring lands of those names, is situate in Patti Lohba of parganah Chandpur in British Garhwál in north latitude 30°-3′ and east longitude 79°-19′ on the left bank of the Rámganga river distant 13 miles from Ganái and 11¼ miles from Adbadri. There is a tea-factory at Ríthiya and a large one close by at Silkot and Gandyál on the spurs of the Dúdútoli range. Another tea-factory is passed at Siman on the right bank of the Rámganga south of the Thájkharak peak, and there is another a march further west at Beni Tál. Lohba is a station of a *peshkár* or sub-collector of the land-revenue, subordinate to the tahsíldár of Srínagar. The traveller's bungalow is built on a flat under Gairsen at an elevation of 5,360 feet above the level of the sea.

Mr. Lushington, when Commissioner of Kumaon, used to reside at Ríthiya for a short time during the year. It has been proposed to remove the offices of the Senior Assistant Commissioner from Páori to Lohba, but as this would leave a large tract of country, wild and rugged in the extreme, far removed from the personal supervision of an European officer, the scheme has found little favour with the responsible authorities. The patti of Lohba is famed for its fertility. Owing to its being surrounded by the high ranges of Dúdútoli and Byánsi, drought is hardly if ever known. Irrigation, too, can be practised and the people possess in their upland pastures grazing grounds for large herds of cattle, and can therefore manure their lands to a greater extent than is common elsewhere. There are mines of copper and iron worked by miners from Kumaon and slates of a good description are also found here. Lohba is named from the fort of the same name which is to be seen on the summit of a high conical hill on the boundary between Kumaon and Garhwál. The walls and remains of build-

ings still exist, and show that the fort must have been of considerable extent. It stands immediately above the right bank of the Rámganga river, and in olden times was the scene of many a stiff fight between the people of Garhwál and Kumaon.[1] It was also garrisoned by the Gorkhális during their stay in Garhwál.[2]

From Ganái the road passes across the Rámganga by an iron suspension bridge, and thence up the valley of one of its tributaries 'the Khetsár' in a north-north-westerly direction between the ridge marked by the Gail-ke-poli (4,053 feet) and Kunkhet peaks on the west and that marked by the Khetsári (4,531) and Jamariya peaks on the east. These meet together at the head of the valley in the Lohbagarh peak (6,272 feet) on the east and the Dhauli on the west, both crowned by forts, while the road ascends between them by the Panuwa-khál or pass, near which is the Garhwál boundary close to Semalkhet mine. From the pass a descent of one mile leads to the Chiraunjiya or Mehalchauri bridge of 79 feet span across the Rámganga. Thence the road keeps to the left bank of the river in the same direction to the junction of the Búngidhár road *viâ* Silkot close under the Ríthiya tea-factory. Here at Saonli is a common encamping-ground, but most go on to the Súniána or Lohba bungalow. To the west the great Dúdútoli range occupies the entire horizon: the Malkhori pass on the Búngidhár road is 8,042 feet high and thence a path leads to the southern peak (10,180 feet) and the northern peak (10,188 feet). On the east, too, a line of noble hills forms the watershed between the Pindar and the Rámganga as far as Diwáli-khál, *viz.*, Kankra (10,062 feet); Kánpur (9,522), whence passes the road to Naráyan-bugr and Kandal (8,533). The scenery on this part of the road is very fine; the mountains around are well clothed with timber and are of a sufficient height above the road to look like mountains.

Lohba, a patti of parganah Chandpur in British Garhwál, is bounded on the north by Pattis Síli Chandpur, Sirgur and Pindarwár; on the south by the Chaukot pattis of Kumaon; on the west by Patti Choprakot, and on the east by Patti Giwár. Mr. Beckett writes:—"I have a low opinion of their (Lohba people) character, which I am puzzled to account for, as were also

[1] *Gaz.* XI, 596, 560, 572. [2] *Ibid*, 666, 792.

Messrs. Traill and Batten. Lohba should from its position, soil and market advantages, be one of the most prosperous in the district. Except those at the head of the valley, the villages have not been heavily assessed. I think that the cause of this may be due to the prolonged struggles with the Kumaonis and Gorkhális, which has given a martial character to the people and with the cessation of the necessity for it they have not yet given up their martial aspirations." Many overflowed into the Khetsár valley at the conquest, where the soil is better and its prosperity in a measure compensates for the backwardness in Lohba. The land-revenue of this patti is collected with that of Patti Khansar and paid into the *peshkári;* both aggregated in 1864 for land-revenue and *sadábart* Rs. 2,184 and for *gúnth* Rs. 72, paid by 4,854 souls. The patti comprises the tract drained by the upper waters of the western Rámganga rising on the northern slopes of the Dúdútoli range (10,180 feet). Lohba, besides being the head-quarters of the tea-factories of Chandpur, has iron mines at Semalkhet, Kálban, Kálimatti, Mehalchauri, Mailpákha, Nauligadhera and Dwárigár all in working order, and old mines at Gwár, Kúnigár and Naupáti. There are copper mines at Agarsera.

Lohughát, a village and old military cantonment in patti Regarubán and parganah Káli Kumaon, is situate on the Lohu river six miles north of Champáwat and ten miles north of Chhirapáni, 15 miles from the Nepál frontier and 53 miles east from Almora, in north latitude 29°-24′-2″ and east longitude 80°-7′-53,″ at an elevation of 5,510 feet above the level of the sea. About twenty miles lower down the Lohu or Lohávati joins the Káli on the right bank. The population in 1872 numbered 98, and in 1881 there were 154 (64 females). Lohughát occupies a pleasant tract of grassy undulating ground sprinkled with *deodárs*. It was formerly a cantonment for troops, but has been abandoned for a long time, owing to the difficulty of access and the unhealthy nature of the country through which the principal roads to it from the plains lie. It is open on the west to the extent of the valley for three miles or so, but on other sides is inclosed by high and precipitous hills. The barracks and bungalows still exist and are kept in repair. The average temperature is 60° and the range is from 30° in January and February (1836) to 82° in May. In September 72° were

registered, in October 68°, and in November 59°. The climate is considered healthy, though new-comers are found to suffer from the common forms of indigestion. Fevers, rheumatism, goitre, and acute ophthalmia are prevalent among the natives.

The granite of Champáwat here disappears and gives place to blue clay slate in vertical strata with some quartz. The ground rises gently towards the north and about three miles distant is backed by the grassy, saddle-back mountain called Jhúm (6,957 feet) along which passes the road to Pithoragarh. This peak belongs to a range continued on the south-east to Khilpati by a level wooded ridge covered with *Quercus incana* and *Rhododendron arboreum*. The groves of *deodárs* near Súi are particularly fine, and the tree seems to have spread and perpetuated itself here for centuries; but neither here nor in any other part of Kumaon is it indigenous, and it is only found near temples and villages, and never on the open mountain. There are two roads to Pithoragarh, one by the Kolakot village to Dhuryara and the new and better one by Raikot to Chhira. The tea-plantations of Mr. Lyall at Raikot and other two in the station are carefully cultivated and in full bearing, but are too far away from the market to be capable of yielding very profitable returns. Hence to Champáwat crossing the Lohu by a suspension bridge 6½ miles, to Diuri, 15 miles, and to Janakpur 15 miles, crossing the Ladhiya at Chalthi.

Kedárnáth, a temple situate in Patti Malli Kálíphát in parganah Nágpur of British Garhwál, lies in north latitude 30°-44′-15″ and east longitude 79°-6′-33″ at an elevation of 11,753 feet above the level of the sea. The temple is built on a ridge jutting out at right angles from the snowy range below the peak of Mahápanth. It stands near the head of the valley of the Mandákini on a level spot, and is a handsome building with a neat façade adorned on either side with niches and images. A tower behind built of grey stone and surmounted by a gilded pinnacle forms the adytum of the shrine. In front of the temple are two rows of masonry houses for the accommodation of pilgrims and behind is the courtyard forming the residence of the *pandas* or officiating priests. The present structure, according to Mr. Traill, is of recent construction, the original building having fallen to ruin. It is dedicated to

The temple.

Sadáshiu, a form of Siva who, flying from the Pándavas, took refuge here in the form of a buffalo, and finding himself hard pressed dived into the ground leaving, however, his hinder parts on the surface, still an object of adoration here. The remaining portions of the god are worshipped at four other places along the Himálayan chain; the arms (*bahu*) at Tungnáth; the face (*mukh*) at Rudrnáth; the belly (*nábhi*) at Madh-Maheswar and the hair (*jeta*) and head at Kalpeswar. These together form the 'Panch Kedár,' the pilgrimage to which places in succession forms a great object to the Hindu devotee. The *ráwals* or head-priests of all these temples are on the same establishment and subordinate to the Kedárnáth *ráwal*, who is of the Jangam sect from Mysore. He only officiates at Guptkáshi and Ukhimath, while his *chela* or adopted son, goes to Kedárnáth for the pilgrim season from the middle of May to the end of October. The *rawals* of the other temples retire at the same time, those from Tungnáth to Mokh; from Rudrnáth to Gopeswar; from Madh-Maheswar and Kedárnáth to Ukhimath and from Kalpeswar to Urgam.

Routes.

The routes to Kedárnáth are two, that *viâ* Karnprayág, Chimoli Tungnáth, and Ukhimath and that generally followed from Hardwár by Srínagar and Rudrprayág along the Mandákini river. Both routes unite at Kharaokoti and all the stages and resting places are separately noticed. Kharaokoti is 11 miles 5 furlongs and 36 poles from the temple. To Páti, where there is a bridge of 33 feet span, there is an ascent of 19 chains and descent 64 chains: to Saundwára (a 63-feet bridge) undulating for 89 chains. From Gaurikund (229 chains) the road is bad and intersected with numerous ravines, and very undulating. But from this place commences some of the wildest and most rugged scenery in the Himálaya. There are hot springs here, also an object of reverence. To Bhímudiyár the distance is 290 chains and to the Kedár bridge 324 chains.

The road follows the course of the river sometimes only a few feet and sometimes a thousand feet above, while on each side the mountains rise four to five thousand feet almost perpendicularly and clothed thickly with forest. So narrow is this gorge that it is possible often at five hundred feet from the bed of the river to throw a stone from one side to the other. At intervals along the

road there are magnificent cascades and numerous small tributaries pouring down in every possible form. At one point, the water comes from a considerable height in as perfect a jet as if it had been constructed by artificial means, and falls into a basin of rock which it has hollowed out for itself. The stream again rises from it almost unbroken and, forming an arch, descends on the road in spray. Higher up near Kedár some of the streams are nearly lukewarm and several of them are highly impregnated with sulphur. At Bhím-udiyár there are a number of caves cut out of the rock used as a halting place, and said to have been so used by Bhíma and the Pándavas. Hence the road goes up the valley of the Kedárganga torrent almost due east until within a mile of the temple when it turns to the north. The atmospherical phenomena resembling the Barisál guns are observed here. The great pilgrim road constructed and marked out by Mr. Traill, while Commissioner of Kumaon, must have been a work of great labour and difficulty, and has resulted in saving the lives of thousands.

Pilgrims.

From time immemorial, pilgrims from all parts of India have toiled through these mountains to visit the three great shrines of Gangotri, Kedár and Badari, all placed on the one great group of snowy peaks separating the Alaknanda from the Bhágirathi river, the two which together form the Ganges. The latter though much inferior in volume is considered in the Puránas to be the more sacred. Although, however, the reputation of the Alaknanda does not equal that of the Bhágirathi, it is on the banks of the former river that the most celebrated places of Hindu pilgrimage are found. Gangotri, a little above which the Bhágirathi issues from its glacier, or according to Hindu mythology where the heaven-born goddess first descended upon the earth, is a spot of the highest sanctity, but it fails to attract the crowds of pilgrims who every year visit the sources of the Alaknanda. How this preference of the less sacred stream had its origin, cannot now be determined. Possibly the superior sanctity of the Bhágirathi may be only the poetical invention of a later age, which has failed to shake the traditional feeling, older than any books, that salvation was to be found more easily on the banks of the greater river. The sources of the Ganges were objects of veneration and of pilgrimage long before the

foundation of the temples which now exist there. Austerities and acts of devotion performed in the Himálaya seem to have had a special virtue from the most ancient times.* We find examples of this in the extracts from the sacred books already given in the previous volume.

Pilgrims begin to enter the hills after the fair at Hardwár. This great assemblage is held on the first day of the month of Baisákh, the commencement of the Hindu solar year, which corresponds with the entry of the sun into the sign of Aries or *Mesha*. According to our reckoning this takes place about the 25th of March, but in consequence of the erroneous calculation by the Hindu astronomers of the true length of the solar year, similar to that error which made it necessary for Pope Gregory to omit ten days from the calendar, the great day of the fair at Hardwár now falls on 11th or 12th of April. Every twelfth year the planet Jupiter (*Vrihaspati*) is in the sign Aquarius (*kumbha*) at the time of the sun's entry into Aries. These are occasions of peculiar sanctity, and the fairs in these years called '*kumbh*,' after the Sanskrit name of Aquarius, are attended by vast multitudes of people. Every sixth year, or half way between two *kumbhs*, the number of visitors is also very great. On the day of which the Hardwár Fair is the anniversary, the Ganges is said to have first appeared upon the earth. Pious pilgrims flock from all parts of India to bathe in the sacred river and wash away their sins. At the present time a large and very conspicuous portion of the bathers at Hardwár come from the Panjáb and distant parts of Rájputána. Religion, however, is not the sole incentive that draws these crowds together. Trade and amusement are as much thought of. Several hundred thousand people are supposed to be no extraordinary gathering, and occasionally in a kumbh year the numbers have been estimated as high as two millions. But there can be little doubt that this is an exaggeration and half this number will perhaps be near the truth.

A small proportion only of the bathers at Hardwár accomplish the pilgrimage to Kedár and Badari. The more bigoted Saivas visit Kedár only, and some Vaishnavas in like manner only pay their devotions at Badari, but the great mass of pilgrims attend both shrines. The Vaishnava worship is so much more popular in Upper India that Badari is considered by far the more sacred of the

two. There is little doubt that to Sankara Achárya is due the re-establishment of the efficacy of pilgrimages to the two great shrines, and it is probable that these institutions have retained to the present day much of the organisation which Sankara himself gave to them.

Ráwal.

The institution of which the temple at Kedárnáth forms a part is a good example of what we may fairly call the monasteries of the Hindus. The constitution of these establishments has been well described by Professor Wilson. "The *maths*, *asthals*, or *akáras*," he writes, "the residences of the monastic communities of the Hindus, are scattered over the whole country; they vary in structure and extent according to the property of which the proprietors are possessed; but they generally comprehend a set of huts or chambers for the Mahant or Superior and his permanent pupils, a temple, sacred to the deity whom they worship, or the *Samadh* or *Shrine* of the founder of the sect, or some eminent teacher; and a *Dharmsala*, one or more sheds or buildings for the accommodation of the mendicants or travellers, who are constantly visiting the *math;* ingress and egress are free to all, and indeed a restraint upon personal liberty seems never to have entered into the conception of any of the religious legislators of the Hindus. The *math* is under the entire control of a Mahant, with a certain number of residents, *chelas* or disciples; their number varies from three or four to thirty or forty, but in both cases there are always a number of vagrants or out-members; the resident *chelas* are usually the elders of the body with a few of the younger as their attendants and scholars; and it is from the senior or more proficient of these ascetics, that the *mahant* is nominally elected. In some instances, however, where the *mahant* has a family, the situation descends in the line of his posterity; where an election is to be effected, it is conducted with much solemnity, and presents a curious picture of a regularly organised system of Church policy amongst these apparently unimportant and straggling communities." Kedárnáth, although of more importance than most institutions of the kind, is in all essential points a *math* similar to those which have been described in the preceding extract. The community belongs to the sect of Saiva ascetics called Jangama; and the Mahant, or as

he is here called, the *ráwal*, as well as his *chelás*, must all be people of Malabar. The Jangamas here, as everywhere else, worship Siva, or as he is more commonly called in these parts of India, Mahádeo, under the form of the *linga*. Throughout these mountains Mahádeo, the god of everything terrible and destructive, is always represented by this emblem, a symbol of the belief that destruction implies generation and reproduction in some other form, the belief that has the scientific basis that 'nothing is lost.' The worship has often been made a matter of reproach to Hindus, but in this part of India, as a rule, such accusations have no foundation. The worship of the *linga*, as we have already seen, is free from all grossness, and to use the words of Professor Wilson, "it requires a rather lively imagination to trace any resemblance in its symbol to the object which it is supposed to represent."

The ceremonies to be observed by pilgrims are very simple, consisting of a few prostrations at various places, and hearing a short ritual and discourse from the officiating priest. The pilgrim carries away in sealed jars from the sacred pool some water which is highly charged with iron and sulphur. Close to the temple is a precipice on the way to the Mahápanth peak known as the 'Bhairab Jhámp,' from which in former times devotees used to fling themselves, but this practice was put a stop to by Mr. Traill. Before proceeding to execute their design it was usual to inscribe their names and the dates on the walls of the neighbouring temples. That at Gopeswar has several such records chiefly of Dakhini and Bengáli pilgrims; the freshest cut bears a date corresponding to 1820 A.D. The income of the temple is derived from endowments consisting of 54 villages, with a rental of Rs. 857 a year, and offerings varying from 5,000 to 10,000 rupees annually. The school, formerly supported by the Ráwal, has been allowed to decline.

Khansár, a patti of parganah Badhán, in British Garhwál, is bounded on the north by Pindarwár; on the west by Lohba; and on the south and east by Kumaon: it was formed from patti Pindarwár in 1864. It occupies the highly mountainous tract to the north of the western Rámganga during its course from Mehalchauri to Kumaon The land-revenue is paid into the Lohba peshkári.

Kharáyat, a patti of parganah Shor, in Kumaon, is bounded on the north by Bárabisi and Askot; on the west by Seti Talla;

on the south by Mahar ; and on the east by Kharakdes. It lies to the north of Pithoragarh and the road from the latter station running north bifurcates at Sathling in this patti, the one branch running north-west to Thal and the other north to the Dárma pattis. Márh and Dungari are villages close to Sachling ; Lámakhet is on the Thal road, and Satgar on the Askot road. Dhvaj or Dhaj, a remarkable peak a little south-east of Satgar, has an elevation of 8,149 feet above the level of the sea in longitude 80°-19′-58″ and latitude 29°-39'-25″. The drainage mostly flows westward into the Kálapáni, a tributary of the Rámganga. The assessable area comprises 1,428 *bísis*, of which 397 are culturable and 1,031 are cultivated (419 irrigated). The land-tax yielded Rs. 324 in 1815 : Rs. 512 in 1820, and Rs. 671 in 1843. The existing assessment of Rs. 1,533 gives a rate of Rs. 1-1-2 per acre on the whole assessable area, and Rs. 1-7-9 per acre on the cultivation. The population at settlement numbered 2,001 souls, of whom 1,049 were males. The patwári resides in Bhulgaon and there is a school in Sátsilingi.

Kharahi, a patti of parganah Chaugarkha in Kumaon, lies between Ríthagár and the Sarju at Bágeswar. It is bounded on the north and west almost as far as the Pápi peak by the road from Bágeswar to Almora by Someswar, thence an irregular line separates it from Ríthágár on the south : the Sarju river forms the north-eastern and eastern boundary separating it from the Kamsyár patti. The two eastern roads from Almora pass through this sub-division on either side of the Rupdeo peak (5,502 feet). The assessable area comprises 1,213 *bísis*, of which 540 are culturable and 673 are cultivated (99 irrigated). The assessment in 1815 amounted to Rs. 69 : in 1820 to Rs. 131 : in 1843 to Rs. 223 : and is now Rs. 886, which falls on the total assessable area at Re. 0-11-8 per acre and on the cultivated area at Rs. 1-5-0. A small patch of 11 *bísis* is held free of revenue. The population at the time of settlement numbered 1,126 souls, of whom 585 were males.

The name of the patti is probably derived from the large quantities of steatite found there. It is more remarkable for the mines of soapstone and copper and its luxuriant forests of *Pinus longifolia* than for its agricultural resources. These were never great, for in 1821 Mr. Traill wrote :—" This small sub-division is now gradually recovering from the state of deterioration to which it had fallen under the late

government. The forests at one time harboured so many tigers that the villages had been deserted on account of them." Consequently the Gorkháli settlement of 1807 showed only fourteen hamlets with a total area of 152 *bísis*, of which only 76 were cultivated and assessed at Rs. 80. It subsequently became a *jágír* of Bam Sáh. In 1821, the assessable area increased to 482 *bísis* with as much more in the area of deserted village sites, but only 152 *bísis* were cultivated. Of its state in 1840 Mr. Batten writes.—" Although it is true that the villages are all surrounded by forests, and that those having the best irrigated lands near the Sarju are in insalubrious situations where only cultivation by non-resident tenants can be introduced, still the people of Kharáhi possess a market for their produce close to their homes at Bágeswar and amongst the Bhotiyas, who in the winter pasture their cattle and sheep in their forests. The copper mines in Kharáhi at present yield but one rupee per annum to the State, and have been practically abandoned by their lessees, who are only the Negi thokdárs of the patti. From the reports on the quality and extent of the ores, it would appear that capital and skill would render the mines of this patti valuable and important. The nature of the soil—(steatitic and talcose mud with springs) in which the cupriferous deposits occur, render the efforts at working the mines by the neighbouring zamíndárs fruitless. The ores of iron are plentiful in various parts of Chaugarkha, and are worked at thirteen different spots, at one of which (Thiratoli in Dárún) magnetic ore is found. Goitre prevails to a great extent in Chaugarkha, especially in Rangor and Dárún, with its usual occasional accompaniment of cretinism." At the recent settlement 26 villages were transferred to Talla Katyúr and one to Dúg. The patwári resides at Khákar where there is a school.

Kharakdes, or Kharkdes, a patti of parganah Shor in Kumaon, is bounded on the north by Talla Askot; on the west by Kharáyat and Mahar; on the east by the Káli; and on the south by Nayades. This patti was formed from Mahar at the recent settlement. The villages are all very small. The assessable area comprises 373 *bísis*, of which 167 are culturable and 206 are cultivated (14 irrigated). The land-tax yielded Rs. 30 in 1815: Rs. 34 in 1820; and Rs. 59 in 1843. The assessment is now Rs. 214, which falls on the whole area at Rs. 0-9-2 per acre, and on the cultivation at Rs. 1-0-7 per acre. The population comprised 259 males and 235 females at settlement. The patwári resides in Bhulgaon.

Khaspurja, the name given to the sub-division of Bárahmandal lying around Almora. It is so called because it was given out by the Chands in grants to the followers of the Court. At the recent settlement it contained an assessable area of 3,893 *bísis*, of which 916 were culturable and 2,977 were cultivated (112 irrigated). The land-revenue in 1815 amounted to Rs. 762; in 1820 to Rs. 1,110; in 1843 to Rs. 1,678, and was fixed at Rs. 4,020 in 1865, which falls at Re. 1-0-6 per acre on the total assessable

area and at Rs. 1-5-7 per acre of the cultivation. The population at settlement numbered 10,749 souls, of whom 5,144 were females, much less than the real number if the moveable population of the bazár be included. Up to 1864, Khaspurja contained but very few villages. At the settlement it received over sixty villages from Talla Syúnara, 22 from Uchyúr and three from Lakhanpur, which together now form a fair-sized patti.

Khatali, a patti of parganah Mallá Salán in British Garhwál, is bounded on the north by pattis Saindhár and Sábali; on the south by Iriyakot and Gujaru; on the east by patti Malla Chaukot of Kumaon, and on the west by patti Kolagár. The principal villages lie in the valley of the Khátaliagadh, one of the principal feeders of the Eastern Nyár. The roads from Dháron and Rámnagar to Páori unite in the southern portion of the patti and run northwards by Ghansyáli crossing the Khataligadh and bifurcating again at Domaila where one branch proceeds westward to Páori and a second northward to Kainúr, passing the Almora and Páori road at the Baijirau bridge across the Nyár. The patwári resides in Chandoli and collects the land-revenue including *saddábart*.

Khati, a village and halting-place on the route to the Pindari glacier, is situate in north latitude 30°-7′-45″ and east longitude 79°-59′-30″ in patti Malla Dánpur of Kumaon, seven miles from Dhákuri (q.v.) 64 from Almora and six from Diwáli, and now has a travellers' bungalow without attendants.

The vegetation between Lwárkhet and Kháti differs very much from that further south. The *Hemiphragma heterophylla* appears with the *kharsu* oak (*Quercus semecarpifolius*), *Pyrus baccata* (*ban mehal*) and the *Rhododendron barbatum* (*chimúl*) on the west side of Dhákuri Bináyák. Here also occur *Pyrus lanata* (*guliau*), *Pyrus crenata* (*maul, mauli*) and *foliolosa* (*suliya, huliya*). Other trees and shrubs are, a ground raspberry with white flowers and orange fruit known as *ganyúr*, *Rubus rugosus* (Don), *Viburnum nervosum* (*giniya*), *V. cotinifolium* (*guiya*), *Miltingtonia dillenifolia* (*gwep*), *Cotoneaster affinis* (*raus, ríáns*), *Elæagnus arborea* (*giwái*), *Kadbura grandiflora* (*silangtti*), *Panax decomposita*, *Sabia campanulata* *Rhus teeturee*, *Fraxinus floribunda* (*angan*), *Acer villosum* and *cultratum*, *Alnus obtusifolia* (*uttsh*), *Cornus macrophylla* (*ruchiya*), *Betula cylindrostachya* (*haour* or *shaoul*). Amongst the plants are *Gualtheria nummularioides* (*bhálubor*), *Anemone discolor* (*hakariya*), *Parnassia nubicola*, *Strobilanthes Wallichii*, *Euphrasia officinalis*, *Geranium Wallichianum*, *Veronica chamædrys* or *Teucrium*, *Halenia elliptica*, *Pedicularis megalantha*, *Sibbaldia procumbens*, *Lycopodium subulatum* (*tula múkha*), *Roscœa spicata*, *Hedychium spicatum* and *Spiranthes amœna*. *Pœonia Emodi* (*bhúniya nar*) abounds in the glades here and higher up (*Madden*).

Khátsyún, a patti of parganah Bárahsyún of British Garhwál, is bounded on the north by patti Ghurdursyún of parganah Dewalgarh; on the east by the same patti and patti Mawálsyún of parganah Chaundkot; on the south by patti Kapholsyún and on the west by the same patti and patti Paidúlsyún. The patwári of Kapholsyún, residing in Sakhyána, collects the land-revenue. This patti comprises a small tract of land on the right bank of the Western Nyár as far south as the Ir stream.

Khilpatti-phát, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Regaruban; on the west by Sui Bisung; on the east by Gumdes; and on the south by Chárál Talla. Khilpatti-phát was separated from Regaruban at the recent settlement, from which it received 16 villages. The principal are Bulámi and Kot. The assessable area amounts to 2,466 *bísis*, of which 1,076 are culturable and 1,390 are cultivated (50 irrigated). The land-revenue amounted to Rs. 518 in 1815; Rs. 779 in 1820; Rs. 954 in 1843, and now stands at Rs. 1,531, which falls on the whole area under cultivation at Rs. 1-1-7 per acre, and on the total assessable area at Rs. 0-9-10 per acre. The population at settlement comprised 1,386 males and 1,293 females. The patwári resides in Khaten, where there is a school.

Khoh or Koh, a stream rising in the Langúr range of hills in Garhwál at an elevation of 6,400 feet above the level of the sea in latitude 29°-56′ and longitude 78°-40′ in the Salán parganah. The Khoh takes a direction south-west by west and debouches from the hills at the mart of Kohdwára, or as it is more commonly called Kotdwára, from which place a canal has been taken from it for the purpose of irrigating the Bhábar lying on its left bank. After leaving Kotdwára the Khoh is joined by the Saneh nadi and flows towards Nagína in the Bijnor district, where another canal is taken from it, and finally after a course of about 65 miles it joins the Western Rámganga At Kotdwára during the cold season the Khoh has a volume of about 40 cubic feet per second, but in the rains it is a deep and rapid river, as it has a large drainage area. Elevation above the sea at Kotdwára 1,305 feet, at Sanehi chauki in latitude 29°-41′-10″ and longitude 78°-33′-39″ the elevation is 1,008 feet.

Kimgadigár, a patti or sub-division of parganah Chaundkot in British Garhwál, is bounded on the south by the Taláín patti of

parganah Malla Salán, and on all other sides by pattis of its own parganah. The sub-division is drained by the upper waters of the Machhlád stream, a tributary of the Nyár. The road from Páori to Dháron passes through the south-western corner. The patwári of Pingala Pákha, residing in Kánde, collects the land-revenue of this patti. Chamnaon, where there is a traveller's rest-house, lies in longitude 78°-56′ and latitude 29°-51′. There is an iron mine at Gudari in this patti.

Kolagár, a patti of parganah Malla Salán in British Garhwál, is bounded on the south and west by the eastern Nyár river; on the north by patti Gurársyún of parganah Chaundkot and patti Taláín of parganah Malla Salán and on the east by pattis Saindhár and Khátali of the same parganah. The road from Páori to Dháron passes through this patti by Kúnj and Pániyakhet to the Nyár river at Chauráni, about seven miles. The Alsa peak above Gudari between Kola and Kúnj attains a height of 6,685 feet above the level of the sea. The patwári of Taláín, residing in Chauráni, collects the land-revenue.

Kosi, Kosila or Kaushálya, a river rising in patti Boraráu Palla of parganah Bárahmandal in Kumaon in latitude 29°-50′ and longitude 79°-35,′ is fed from the streams collecting along the eastern slopes of the high chain of hills in that patti comprising Birchuwa (8,427 feet); Gopálkot (9,050); Bhadkot (9,086) and Búrha Pinnáth and the northern declivity of Milkáli (7,470 feet). On the east, the range containing the Kausáni tea-plantation forms the watershed between the Kosi and the Gumti, a tributary of the Sarju and eventually of the Káli on the extreme east, while the Kosi joins the Rámganga and eventually the Ganges on the extreme west. The Kosí forms a tolerable stream by the time it reaches the broad valley at Someswar in latitude 29°-46′-40″ and longitude 79°-38′-55″ at an elevation of above 4,500 feet above the level of the sea. Here it receives the drainage of the southern declivities of Bhadkot and Milkáli on the right bank and another stream on the left bank. It has a course hence of about twelve miles in a south-easterly direction through the Talla Syúnara patti to Háwalbágh where it is crossed by an iron suspension bridge on the Almora road. In this course it receives numerous mountain torrents on either side, and has a fall of about 1,000 feet. Below Hawálbágh it is joined

on the right bank by the Nána Kosi which drains the valley traversed by the bridle road from Almora to Ránikhet to the west of the Kosi valley and is also crossed by a bridge on the cart road. Hence the course inclines to the south-west winding along the western declivity of Kálimat and the hill on which Almora is built and finding an exit between the eastern base of Siyáhi Devi (7,186 feet) and the south-western prolongation of the Almora ridge at Chaunsila, it receives the Suwál on its left bank. Previously to its confluence with the Suwál it is twenty-six yards wide with a rough bed of large stones and fordable, being only twenty inches deep in the cold weather. At this point where the elevation above the sea is about 3,300 feet it takes a course generally west by Khairna, receiving on the right bank the Ulabugr and Kúch-gadh streams from parganah Phaldakot. Close by at Buján the elevation above the sea is 2,862 feet. The course continues thence more decidedly west and for a portion of the way north-west to Mohan with an elevation of 1,586 feet above the level of the sea. Hence it turns abruptly to the south-east and subsequently south by Dhikuli, entering the plains at Rámnagar in latitude 29°-23′-34″ and longitude 79°-10′-8″ with an elevation of 1,204 feet above the level of the sea. Owing to the steep gradient (one in one hundred) of the bed of the Kosi from Ukhal-dhúnga to Rámnagar, the surface of the channel is strewn with boulders. On the right bank from Kumariya to Dhikuli there are numerous torrents with very steep beds through which the drainage water in the rains pours down with great velocity: often joining the Kosi by numerous channels, and, where they are confined to few, being sometimes very destructive. From Ukhal-dhúnga to Buján the principal rock is a hard quartzose sandstone running into metamorphic quartz. The quartzose sandstone, however, only retains its distinct form up to about three miles above Ukhal-dhúnga. Mr. Ryall found the average discharge of the Kosi opposite Mohan to be 310 cubic feet per second. The width of the stream being 60 feet, average depth 1·4 feet and velocity 2·5 miles per hour. There are many islands covered with *khair* and *sisu* trees. The whole route from Mohan down to Rámnagar is one of extraordinary beauty and affords scenery of the most savage and rich description such as would delight a Salvator Rosa. Beyond this it receives the Dhabka, a

small stream flowing through the Kota Bhábar, on its left bank. It then takes a southerly direction through the plains for about seventy miles and falls into the Rámganga in latitude 28°-41′ and longitude 79°-1′ after a total course of between 140 and 150 miles. At Rámpur, eleven miles above the confluence, it is but a small stream from December to June and is fordable, but during the rains can only be crossed by a ferry. At Dariyál between Morádabad and Naini Tál there is a ferry where in the height of the rains it often takes several hours to cross the river.

Kosyan Malla, a patti of parganah Phaldákot in Kumaon, is a long narrow strip of land lying along the right bank of the Kosi river from the summit of the watershed to the banks of the river along which the Almora road runs to Rámnagar and contains the villages of Khairni (received from Dhuraphát) Korurh and Burdon. It is bounded on the west by Chauthán ; on the north by Dhúraphát; on the east by the same patti and on the south by Uchakot and Simalkha. The assessable area comprises 1,360 *bísis*, of which 349 are culturable and 595 are cultivated (144 irrigated). The land-revenue in 1815 amounted to Rs. 336 ; in 1820 to Rs. 378 ; and in 1843 to Rs. 459. It is now Rs. 875, which falls on the total assessable area at Rs. 1-3-7 per acre and on the cultivation at Rs. 1-7-6 per acre. The population at settlement numbered 1,261 souls, of whom 641 were males. The patwári resides in Joshikhola, where there is a school.

Kosyan Talla, a patti of parganah Phaldákot in Kumaon, is bounded on the north by pattis Kakalasaun Malla and Chauthán ; on the east by the latter patti ; on the south by patti Kota Talla ; and on the west by pattis Kota Talla and Sult Talla. The Kosi runs through this patti nearly due west from Punt-pípal by Amel, Siti, where the Almora and Ránikhet roads to Rámnagar unite, and Bishmoli to Ukhal-dúnga in the Kota Talla patti. The country is rocky and difficult, and has but little cultivation. The principal villages are Kuthimi, Siti and Amel. The assessable area comprises 892 *bísis*, of which 153 are culturable and 738 are cultivated (410 irrigated). The land-tax in 1815 amounted to Rs. 449 ; in 1820 to Rs. 666 ; in 1843 to Rs. 650 ; and is now Rs. 1,410, which falls on the total assessable area at Rs. 1-9-6 per acre, and on the cultivated area at Rs. 1-14-9 per acre. The

population at settlement numbered 1,257 souls, of whom 619 were males.

Kota, a parganah in Kumaon comprises two pattis, the Malla and Talla, each of which is separately noticed. The totals given under the statistics of the Malla patti show the parganah statistics. The incidence of the land-tax on the whole assessable area of the two pattis falls at Rs. 1-0-2 per acre and on the cultivation at Rs. 1-9-6 per acre. There are 51 mahâls or estates comprising 67 villages. The population in 1872 numbered 2,236 males and 2,147 females.

The small village and fort of Kota with Debipura adjacent, occupy the mouth of the Dhabka pass, where the river enters the central plain of the Kota Dún. The sources of the Dhabka, the Baur, the Nihál, the Bahmani, and the Bhakra rivers are all situate in this parganah; while the Kosi river passes through one portion on the north of the Gágar range, before it enters the Bhábar. The lower and upper villages are similar in all respects to those of Chhakháta, but in Kota there is no central level tract like the beautiful valley of Bhím Tál. Chukám is celebrated for its rice, and criminals were banished thereto cultivate it on account of the unhealthiness of the climate. The main roads from Almora to Morádabad and Rámnagar and from Kálidhúngi to Naini Tál pass through Kota, but there are no large villages. The majority are scattered about the mountain forests without connection. The best and largest estates are situated between the heads of the Dhabka and the Bahmani rivers on the spurs from the great Badhán-Dhúra peak of the Gágar. There is also a cluster of good clearings at the head of the Baur between the Badhan-bináyak pass and Chína, the well-known monarch of the Naini Tál hills.

Kota Malla, a patti of parganah Kota in Kumaon, is bounded on the north by pattis Kota Talla, Uchakot and Dhaniyakot; on the west by Kota Talla; on the south by the Kota Bhábar and on the east by parganah Chhakháta. This patti was separated from Pahár Kota at the recent settlement. The entire Kota parganah was locally divided into Pahár and Bhábar, and theformer is now comprised in the Malla and Talla pattis, of which the statistics of permanent value may be shown thus :—

Kota.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated*		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
					Rs.	Rs.	Rs.	Rs.		
Malla ...	1,257	86	647	523	1,153	823	921	1,223	1,161	1,103
Talla ...	1,608	286	801	520	916	1,008	1,223	1,676	1,238	1,104
Total ...	2,865	372	1,448	1,043	2,069	1,831	2,144	2,899	2,399	2,207

The land-tax falls on the total assessable area in the Malla patti at Re. 0-15-7 per acre and in the Talla patti at one rupee: the rates on cultivation are Rs. 1-10-8 and Rs. 1-8-8 per acre respectively.

The more important villages are Kúrpákha, Muhrorha, Mangoli and Syat. These statistics belong to Kota Pahár as distinguished from Kota Bhábar. The patwári resides in Kota, and there is a school in Bánjbugr.

Kota Talla, a patti of parganah Kota in Kumaon, is bounded on the north by the Kosi river; on the east by Patti Kosyán Talla and on the south and west by the Bhábar. The statistics are given under KOTA MALLA. The road from Rámnagar to Almora passes by Ukhaldhúnga in the north of this patti. The more important villages are Bhágni, Dauna, Saurh and Amota. Five villages were transferred to Talla Sult at the settlement. The patwári resides in Parewa and there is a school in Rewár.

Kota Bhábar, a tract in Kumaon bounded on the north and west by Garhwál; on the north and north-east by the Kota pattis and Talla Sult; on the east by the Chhakháta Bhábar and on the south by the Tarái district. The Kosi river from Mohan runs from north to south through this patti and along its right bank the road from Rámnagar to Páori passes along the Paniyáli Sot to the Rámganga and that to Másí by the Kath-ki-nau pass. A third road branches off by the Thunguli Sot to Kotdwára and a fourth follows the Kosi to Almora by the Bobani-ke-gadh.

In the lower ranges to the north of this patti there is no cultivation and no villages. Its most remarkable feature is the Kota Dún divided from the Bhábar by the practically most easterly portion of the range representing the Siwáliks in the Dehra Dún, for its eastern continuation in the Giwáli cliffs south of Naini Tál is so closely connected with the outer range of the Himálaya as to be undistinguishable except to the expert: travelling up from Káladhúngi into the Kota Dún a track leads through forest for some six miles and then over the cultivated lands of Haldu-Bajaniya, Pataliya and Gaintigaon, a little beyond the last of which are three large mango groves called the Ukali, Siunáth and Bharatgiri groves, in the first of which covering some twenty-five acres is an encamping-ground (2,200 feet) immediately north and perhaps 100 feet below the path is the channel of the Dhabka river, about a mile in width, partly cultivated but chiefly given over to scrub and shingle. Three distinct terraces are traceable in this channel, formed by the river at various epochs, the main and highest bank of boulders and gravel. To the south-west the land is irrigated by channels from the Dhabka which is totally exhausted in the valley. The village of Kota is a miserable place about

three miles above Ukali, on the opposite bank of the river where it emerges from Pahár Kota by a most magnificent gorge. The course of the stream is here diverted by a bluff on which is the remains of the old fort, defended by thick stone walls, wooded precipices and cut off from the cultivated grounds to the south-west by a narrow but deep ditch. The position is very unhealthy and the Gorkháli garrison had to retire to Dola, a fortified position on a peak to the north-west.

On the same bank but lower down is the romantic temple of Devipur,[1] about 200 feet above the river on a low range of wooded hills, here worked into a ridge by a confluent stream which pours down a narrow but wild and lovely dell from the north. Hence there are beautiful views of the hills, the outer ranges and the Dún, all still almost enveloped in forest. Badhán-dhúra due north of Kota has an elevation of 8,408 feet and between it and Chína over Naini Tál are three peaks having an elevation of 8,244, 8,612 (Badhán Toli) and 8,186 feet respectively. To the west the ridge is continued in Sonchuliya (8,504 feet) whose spurs run down to the Kosi. The rock at and above the Kota fort is the usual sandstone; above this is limestone; the three western peaks are chiefly quartzose rock and Badhán-dhúra, the same mixed with slate, dipping north-east as usual: an eruption of greenstone occurs at Saur village (5,863 feet) on the southern face of Badhántoli.

From Kota to Sítaban about six miles south-west by south the route crosses the Dhabka, of which the right bank is high and precipitous and the way through a forest of *khair* (Acacia catechu) trees. Beyond the river, *sál* trees abound. The path then follows the Dhani or Chuhul from the eastern flank of the Báhmani peak near Báhmangaon. This at Sítaban joins with the Báhmani from the western flank of the same peak to form the Kichari, an affluent of the Dhabka. The scenery around Sítaban is extremely wild and beautiful; *sál* of noble dimensions occupies the plateaus of level, uncultivated land between and west of the streams and to the north is a fine view of the outter range. There is no road here and no cultivation, but the temple amid a fine grove of *asoka* trees (*Saraca indica*) is sacred to Síta, who fled here after escaping from Rávan. The outer ranges to the south are high enough for *chír*. From Sítaban to Dhikuli (*q.v.*) about half the distance is over high table-land covered with forest, the rest is along a series of most picturesque glens, the floors and acclivities of which are equally clad in the same dense and beautiful forest. Close on the north rises the most western prolongation of the Gágar which terminates at Dhikuli in this long wooded spur. It sends down a multitude of torrents which with those of the northern slopes of the Siwáliks form on the east the Bandarpáni and on the west the Gaja streams, both of which unite near Pipaliya-Gaja and fall into the Kosi on the left bank opposite Dhikuli. Nothing can be more exquisite in scenery than the cliff banks and shaggy hills of the Kosi here enlivened by flights of birds (December) which are comparatively wanting in the waterless plateaus. About two miles up the river towards Mohan, the hills recede on each side leaving a level valley which with the exception of one or two small clearings, consists of stony land covered with scrub jungle.

From Dhikuli to Rámnagar the road follows the right bank of the Kosi, one by the high forest land through the Amdanda and Amsot *chaurs* and the

[1] J. A. S. Ben., XVII (1), 376.

other close to the bed of the river, both meeting on the edge of the highlands in Rámnagar (1,204 feet). Four miles on through flat ground covered with bamboo, *ber* and grass jungle Chilkiya is reached and next to it Tánda. To the west along the foot of the hills a road connects with Kotdwára and to the east with Barmdeo. From Rámnagar to Káladhúngi, the road passes though clearings, jungle and forest, crossing the Kosi by a ford at Shankarpur and the Dhabka under Burwa and a canal and a torrent near Belparáo to Bandarjura, formerly the site of a police out-post. The last is about a mile from a base of the low range of the Kota Dún. In the south-west of this, about a mile and a half distant, there is a copious formation of vesicular calcareous tufa or travertine, forming a cliff over one hundred feet high, and most probably constituting the mass of the range, which it does on the Kamola pass, about five miles east, where the summit, far beyond the reach of running water, is flored with it. The Karara-gadh, a torrent rising to the north of the Kamola pass, encrusts everything with lime to a distance of three miles from the hills and possibly much further. This rock at Bandarjura is quarried and carried to the plains. From the crest of the cliff above mentioned the view over the silent, wide-spreading forest is impressive. From Bandarjura to Káladhungi, ten miles, of which five to Kamola and thence across the Bhaula to the Morádabad road and into Káladhúngi (*q v.*) *Madden.*

Kotauli Malli, a small patti of parganah Kotauli in Kumaon lies around the Piúra bungalow on the upper road from Naini Tál to Almora. The assessable area amounts to 812 *bísis*, of which 153 are culturable and 659 are cultivated. The Gorkháli assessment amounted to Rs. 378, and that of 1843 to Rs. 520, the present land-tax is Rs. 838, falling at Rs. 1-4-4 per acre on the assessable cultivation. The population at the time of settlement numbered 1,474 souls, of whom 768 were females : see further the notice of the Talli patti. The patwári resides at Mauna, where there is a school.

Kotauli Talli, a small patti of parganah Kotauli in Kumaon, lies along the left bank of the Kosi in the Khairna valley below its confluence with the Suwál, and is bounded on the south by Dhaniyakot, Agar and Rámgár. The assessable area amounts to 1,601 *bísis*, of which 355 are culturable and 1,246 are cultivated (24 irrigated). The Gorkháli assessment amounted to Rs. 863, increased to Rs. 1,046 in 1843, and now fixed at Rs. 1,602, which falls on the total assessable area at one rupee per acre and on the cultivation at Rs. 1-4-7 per acre. The population at time of settlement numbered 3,715 souls of whom 1,795 were females. The patwári resides at Chimi, where there is a school.

Kotdwara, or Khohdwára is a small, though rapidly increasing mart in patti Ajmer and parganah Ganga Salán of Garhwál

on a flat about 80 feet above the river Khoh on its left bank where it debouches from the hills. There was also a fort at the hill end of this flat, where it is very narrow, and which was used in former days to resist the attack of robbers from the plains. The bazár is increasing in importance partly owing to the cultivation which has of late years been started; but also from increased means of communication, as hillmen, instead of purchasing cloth, *gûr*, &c, at Srinagar, now go direct to this place, where they can procure all they want at cheaper rates, and also barter *ghi*, red pepper, turmeric, hempen cloths, ropes of different fibres, and a few barks and jungle products, for what they require for home consumption. There are two fairs held during the week on Tuesdays and Fridays, and frequently thousands of persons collect to trade. When a bridge can be erected over the Khoh on the road to Najíbábad, and this road be improved, the importance and trade of this place must increase, for the railroad now passes through the Bijnor district within 18 miles of it. The forest department also has a large amount of timber and bambu cutting in the immediate vicinity, while a large mill is worked on the canal to which grain from Najíbabad and Nagína is brought to be ground. All these points tend to increase its importance. It is chiefly peopled by petty traders from the Bijnor district numbering over 1,000 for ten months in the year, as a large number of traders from Najíbabad and also from the hills keep shops open during this period, only going away for the unhealthy months of August and September. It is 18 miles from Najíbabad, 30 from Bijnor and 47 from Páori.

Madhmaheswar, a temple in Patti Malli Kálíphát of parganah Nágpur in Garhwál situate about eleven miles north-east of Ukhimath in north latitude 30° 30′ 5″ and east longitude 79° 15′ 49.″ The temple is on the Kedárnáth establishment, and is one of the Panch Kedár supposed to be visited by all pilgrims who perform the full round, but owing to the difficulties of the road this duty is often avoided. The temple is situate on the eastern face of the Madhmaheswar *dhár*, the peak above it having an elevation of 11,477 feet. Higher up the glen near the sources of the river at a place called Dhola are some rocks and a pool which are also objects of reverence. The priests of Madh retire to Ukhimath during the winter.

Mahar, a patti of parganah Shor in Kumaon, is bounded on the north by Kharáyat; on the west by the Seti Pattis and Waldiya Bichhla; on the south by Waldiya Talla and Sain, and on the east by Pattis Kharakdes and Nayades. The valley is drained by the Chandrabhága river, which flows thence south-east to the Káli. Between the fort and cantonments of Pithoragarh and the Jhúla bridge across the Káli leading to Nepál the principal villages are Káshni, Bherkatiya, and Ruinda. The patwári resides in Bajeti. Roads branch from Shor for Askot and Thal on the north; Almora on the west, and Lohughát on the south. The assessable area comprises 3,036 bisis, of which 761 are culturable and 2,275 are cultivated (1,035 irrigated). The land-tax yielded Rs. 1,025 in 1815; Rs. 1,486 in 1820; Rs. 1,853 in 1843; and now gives Rs. 3,877, which falls on the whole area subject to it at the rate of Rs. 1-4-5 per acre and on the cultivation at the rate of Rs. 1-11-3 per acre. The population at settlement numbered 3,465 souls, of whom 1,768 were males.

Mahryuri Malli, a small patti of parganah Mahryúri in Kumaon, is bounded on the north by Bisaud and Dolphát, on the south and east by Chaubhainsi, and on the west by the Bichhla Patti and Bisaud. The principal villages are Bhangadyoli and Nárha. The statistics of the four pattis may be shown thus :—

Mahryúri.	Assessable area in bisis.				Assessment in rupees.			Population.	
	Total.	*Cultivated.* Irrigated.	*Cultivated.* Dry.	Culturable.	Under Gorkhalis.	1843.	Current.	Males.	Females.
Dolphát ...	849	4	656	188	211	349	636	642	501
Malli ...	806	...	514	291	184	206	605	650	570
Bichhli ...	1,190	7	757	425	367	594	953	1,191	1,017
Talli ...	1,150	12	584	553	327	523	840	1,158	1,022

The incidence of the current land-tax on the cultivated acre is Re. 0-15-5 in Dolphát; Rs. 1-2-10 in Malli; Rs. 1-3-11 in Bichhli and Rs. 1-6-6 in Talli Mahry-

úri. In 1881, the population numbered 356 males and 335 females. The patwári resides in Dhárkhola, where there is a school.

Mahryúri Bichhli, a patti of parganah Mahryúri in Kumaon, is bounded on the north by Kotauli Malli and Uchyúr; on the west by Kotauli Talli and Agar; on the east by Bisaud and Mahryúri Malli, and on the south by Chaubhainsi. This patti was separated from Mahryúri at the recent settlement. The principal villages are Guhni and Lúisál. The statistics are given under the Malli Patti. Mahryúri comprised a number of villages from different pattis, the revenues of which were assigned for the expenses of the powder manufactory and the carriage of ammunition in time of war by the Rájas of Almora and had no distinct boundaries. Hence the proverb :—

'*Jori jári ber ke Mahryúri*,'

'having collected a lot of things together you have a Mahryúri ;' meaning that there is very little result after all your trouble. Patti Silkána, abolished in 1821, was also devoted to the provision of carriers of ammunition in time of war. The patwári resides in Mauna.

Mahryúri Talli, a small patti of parganah Mahryúri in Kumaon, is bounded on the north by Agar and Rámgar Malla; on the west by Dhaniyakot; on the south by Chhakháta, and on the east by Chaubhainsi and Chhabis Dumaula. The principal villages are Dárhmi, Sharna, and Asorha, near which paths connect Dol with Bhím Tál. The statistics are given under the Malli Patti: the patwári resides in Sunkiya.

Mahryúri Dolphat, a small patti of parganah Mahryúri in Kumaon, lies around the dák bungalow on the road from Almora to Lohughát and is bounded on the north by Bisaud and Sálam; on the south by Chaubhainsi, and on the east by Sálam Malla and Talla. The principal villages are Syúnani, where there is a school; Dol (6,022 feet), where there is a planter's bungalow, and Khákar. The statistics are given under the Malli patti. The patwári resides in Kandára.

Maidi river, a tributary of the Eastern Nyár, which drains the valley forming the patti of Kauriya Walla and the north-eastern corner of Malla Síla in Garhwál. It falls into the Eastern Nyár on the left bank near Ukhlet in latitude 29°-55′ and longitude

78°-45′-30″. There are many large villages along its banks connected by a good road following the bed of the river and joining on to the Kotdwára and Khátali road.

Maikhanda, a patti or sub-division of parganah Nágpur in Garhwál, is bounded on the west by Tíhri; on the south by Tíhri and Bámsu, and on the east and north by Malli Kálíphát. It comprises the tract lying to the west or right bank of the Mandákini river from the Byúngadh to Sondwára, drained by the Byúng, Gabíni, Walári, Pabi and Sini streams. From Sondwára to the Tíhri frontier the Sinigádh forms the boundary. The population in 1841 numbered 826 souls; and in 1858, 909 (434 females). The entire sub-division is held in *sadábart*, and the revenue is collected by the patwári of Malli Kálíphát, living in Guptkáshi.

Malari, a village in Patti Malla Painkhanda of Garhwál, is situate in north latitude 30°-41′-50″ and east longitude 79°-55′-50″ on the route from Joshimath to the Níti pass, thirty miles south of the latter.

The site is pleasing, being in the eastern angle of a small triangular plateau about a mile long and half a mile broad, of which two sides are bounded by streams and the other by mountains covered to the summit with a bed of snow, thin on the projecting parts and deep in the ravines. The village contains about fifty houses, built of wood and stone intermixed and cemented with mud. Some of the houses are two or three stories high; in which case the lowest story is used for housing cattle. Large stones are hung by means of ropes from the projecting beams of the roofs, to prevent them from being blown away by the violent storms common here. A wooden verandah projects from the upper story, and is ornamented with carvings of flowers and of Ganesa and other Hindu deities. The inhabitants are Bhotiyas of the Márcha clan, who occupy this part of Garhwál only from about the 24th of May to the 23rd of September, when they migrate to less elevated places. Their principal means of support is the trade which they drive between Húndes and the low country to the south, conveying the merchandise on the backs of goats and sheep.

Batten found, in October, only three thousand feet below the line of perpetual snow, the harvest just cut at an elevation of 10,250 feet above the level of the sea. The following account of an attempt to scale Dúnagiri in 1883 by Mr. Graham and the guides Boss and Kauffman is interesting as the only one on record :—

"After a delay of two or three months Mr. Graham and his men started for the second time for the peak of Dúnagiri. The first ten or eleven days were taken up with the preliminary march until the foot of Dúnagiri was reached at a height of 18,400 feet. Here they camped for the night. Our route lay up the west ridge, and for some considerable distance we got along very well. Then we were forced away from the edge to the southern side of the arete, and here,

we suffered greatly from the reverberation of the sun, which took greater effect from the height we had reached. So much did this trouble us that we were all nearly fainting when we reached the summit of the aréte; Kauffmann, who had not been quite himself, was quite overcome, and utterly unable to proceed. We did not like to leave him, but he begged us not to turn on his account; and as we thought that we must succeed, we made him comfortable and started by our two selves. We were now on the final slope of the peak, and, though not abnormal, it was a very steep bit of step cutting. The mist crept up and snow began to fall, and we were thinking of turning, for we had been two hours from Kauffmann, and it was already one. Suddenly the mist cleared away, and we instantly saw the great height which we had reached. Actually below us lay a splendid peak, to which we afterwards gave the name of Mount Monal, 22,516. We were quite 22,700, and the summit, not 500 feet above us, was in full sight. We again attacked vigorously, Boss just making notches, and I enlarging them to steps. But it was no use; down swept the clouds with a biting hail and wind, and we had to turn. It was with difficulty that we got down again; the darkness and sting of the hail prevented us from seeing the steps clearly, and I fully expected a slip. We picked up Kauffmann and got down with great trouble, the last part of the way being in darkness. Here another trouble awaited us; everything was soaking wet—matches, food, blankets, and ourselves—while the wind cut us like a knife. Boss insisted on our keeping awake, and I have no doubt he was right; but tired out as I was, it was very unpleasant. Next day we swagged our things, and got down to our lower camp, to the great joy of our coolies, who had given us up for lost. As this was the first occasion on which we reached an unusual height, it may not be amiss to give our personal experience. Neither in this nor in any other ascent did we feel any inconvenience in breathing other than the ordinary panting inseparable from any muscular exertion. Nausea, bleeding at the nose, temporary loss of sight and hearing, were conspicuous only by their absence, and the only organ perceptibly affected was the heart, whose beatings became very perceptible, quite audible, while the pace was decidedly increased."

Mali, a patti of parganah Síra in Kumaun, is bounded on the north by Talládes of parganah Juhár; on the south by Athbisi Talla and Bárabisi; on the west by Baráun and Pangaráon, and on the east by Patti Dindíhát. Patti Máli lies along the left bank of the Rámganga river; a small portion is situate on the right bank at the north-western corner close to the Kálinág peak. The assessable area comprises 1,779 *bisis*, of which 947 are culturable and 831 are cultivated (434 irrigated). The land-tax yielded Rs. 270 in 1815: Rs. 442 in 1820: Rs. 550 in 1843, and was fixed at Rs. 1,588 for the term of the present settlement. It now falls on the whole assessable area at Re. 0-14-3 per acre and on the cultivation at Rs. 1-14-7 per acre. The population at the time of settlement numbered 1,750 souls, of whom 954 were males.

Some 68 *bisis* are held revenue-free for the support of temples. The patwári resides at Sát: there is a school at Atalgaon.

Malli Rau, a patti of parganah Dhyáni Rau in Kumaon, is bounded on the north by Sálam Talla and Chálisi; on the east by the latter patti, Asi and Talli Rau; on the south by the latter patti and Chaugadh, and on the west by Chaugadh, Bisjyúla, and Chaubhainsi. The patwári resides at Pataliya; there is a school at Joshyúra. At the recent settlement pattis Bisjyúla and Chhabis Dumaula were separated from this patti, and what remained was divided into two—the Malli and Talli pattis—of which the statistics may be shown thus:—

Rau.	Assessable area in *bisis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.* Irrigation.	*Cultivated.* Dry.	Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
Malli ...	2,075	193	1,296	585	648	1,101	1,175	1,804	1,463	1,277
Talli ...	2,869	338	1,725	805	869	1,162	1,350	2,489	1,501	1,287

Some 36 *bisis* are held as *gúnth*, free of revenue. The incidence of the land-tax in the Malli patti on the assessable cultivation is Rs. 1-3-5 per acre, and in the Talli patti is Rs. 1-3-4 per acre. There is a good deal of rich valley land in the Rau pattis and the upland villages, too, are large and well-cultivated, and the Kaira, Bora, and Deo clans are particularly well off. Seven villages were transferred to Chaagadh at the recent settlement. The iron mines near Manglalekh in the Talli patti are still worked and supply all the metal required for agricultural purposes in the neighbourhood. They are leased together with those at Nái in Chaubhainsi by the Aguris at Rs. 300 a year. The copper mines at Dharsári and Kimukhet in the same patti are not now worked.

Malwa, or Maluwa Tál, a lake in parganah Chhakháta of the Kumaon district, the Westmoreland of India, lies in north latitude 29° 20′ and east longitude 79° 41′, distant nine miles from Bhím Tál and twenty-one miles from Naini Tál at an elevation of about 3,200 feet above the sea. From Bhím Tál the road ascends the ridge to the north of the valley, and passing along the crest for a

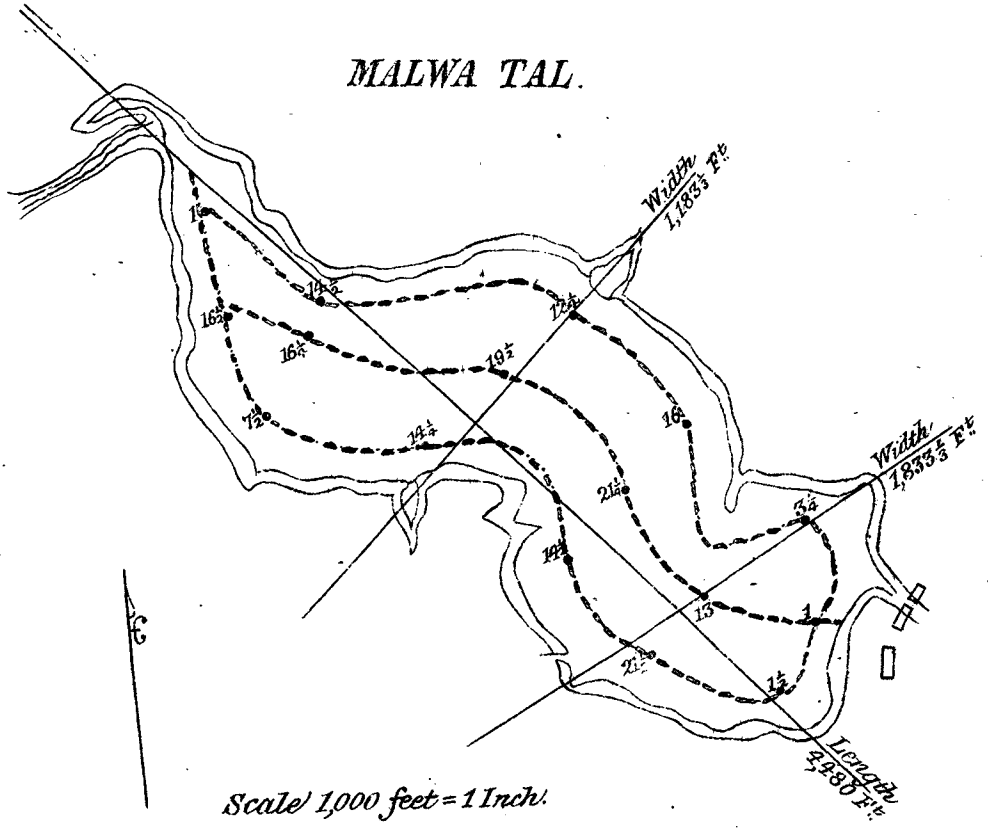
few miles makes a sudden and very steep descent to the lake of Malwa. There is capital fishing in the lake, and the use of the District Engineer's bungalow may be had on application to the district authorities. The lake, of a very irregular shape, is situate at the base of two ranges and follows very much the outline of the hills within which it lies. At the south eastern end, where its outlet which forms the source of an affluent of the Gaula river lies, an embankment was made with a sluice-gate by which the level of the lake was raised in order to store water for irrigation purposes in the Bhábar at the foot of the hills, but the embankment gave way, and has not been restored. The mountains around are lofty and spring up directly from the margin of the lake. At the western end it receives the Kálsa-gádh, which drains a long and narrow valley extending as far as the Gágar peak (7,855 feet) to the east of the Gágar pass above the Rámgar tea-plantation. This river carries with it great quantities of stone and gravel into the lake, which, added to the landslips continually occurring from the hills on either side, must in time have an appreciable effect on its depth and area. The lake is 4,480 feet long in the centre, 1,883 feet wide at the broadest; and has an area of 121·76 acres with a maximum depth of 128 feet, or, while the embankment existed, of 158 feet. There is a current observable throughout the lake, and directed towards the outlet. The bottom is comparatively level, and is composed of rock, loose shale, fine sand, and quartz gravel. The water is clear and of a beautiful blue colour except in the rains, when it becomes of a dirty muddy colour owing to the immense quantities of *débris* carried into it; for the same reason it is not good for drinking purposes, and whether it is the water or climatic influences of the highly enclosed valley, Malwa Tál has amongst Europeans and natives the reputation of being exceedingly unhealthy. The story goes that in former days there was a Raikwál peasant named Malwa at Chyúrígár, who was a great wrestler and oppressed the people. One day he took a fancy to another man's wife, and, seizing her, hid her in a cave. The gods were offended and sent a mighty landslip which dammed up the Gaula and covered the cave, and thus arose the Malwa lake. High above the outlet on the north-east is an immense scar which the people point to as the scene of the landship and still call it Malwa-ka-paira.

Geology.

Mr. Ball describes the range to the "north as chiefly formed of white and purple quartzites with which there are some slates and shales. The dip of these beds is variable, but north-west at a low angle seems to be the prevailing direction. Much of the higher face of this range is steeply scarped, but landslips abound, and have, to a great extent, concealed the character of the lower portions. The range on the south consists primarily of an axis of greenstone, which stretches continuously hence from the neighbourhood of Bhím Tál. Associated with this greenstone are quartzites and shales, the beds in immediate contact often showing signs of much alteration and induration. Occasionally the effect of the former has been such as to cause the affected beds to assimilate to the characters of the greenstone, and to be almost inseparable from it, by mere examination of their outward lithological structure. What the exact nature of the physical relations of this greenstone may be, has not yet been fully ascertained; but that it does not exist merely as a single simple dyke is amply testified by the fact that branches from it cross the valley at both ends of the lake, and are cut through by the infalling and outfalling streams. At the head of the lake is a boulder bed through which the river cuts to a depth of eight or ten feet. This deposit consists chiefly of subangular fragments of trap and quartzite. At first I was inclined to attribute it to the effects of a retreating moraine. Temporarily this view was supported by the discovery of boulders of granite and gneiss—no *known* source for which exists within the present drainage limits of the Kálsa. It was impossible, however, to overlook the fact that there were no signs of polishing on any of the blocks, and that those which have come furthest (the granite, &c.) are well rounded and water-worn. Taking into consideration the professedly general character of the only existing geological map, it would be clearly unsafe to adopt the view that no source for these boulders exists within the watershed; and this the more especially as in the adjoining basin of the Gaula on the north, the occurrence of gneiss and granite is indicated on the map." (*Gaz.* X, p. 114.)

"The importance of determining the source from whence these boulders have been derived is sufficiently obvious. If they have not come from within the limits of this catchment basin, then indeed it might be necessary to invoke the aid of an ice cap to account for their transport; but in the meantime it is impossible to assert that this accumulation of boulders at the mouth of the gorge is other than a delta of diluvial origin. Now as to the character of the lake itself:—Its maximum dimensions are, length 4,480 feet, width 1,833 feet, and depth 127 feet. Unfortunately, as was the case with Bhím Tál, no series of soundings are available, and the form of the basin is, therefore, uncertain. The bounding ranges and their slopes, however, indicate the V (river) rather than the U (glacial) type of valley denudation. Looking up the lake towards the course of the stream, the view just beyond the gorge is quite shut out by a projecting spur, which a glacier could have scarcely failed to modify if not remove. At the outfall no rocks are seen *in situ*. The barrier, now modified by a sluice, appears to be mainly formed of *débris* thrown down by landslips. The first rock which I detected *in situ* in the bed of the stream was the already mentioned greenstone, which will, I believe, prove to be at a lower level than the bottom of the lake."

The map here given supplies a series of soundings made by Dr. Amesbury in 1871 :—



Mána, a village on the Sáraswatí, an affluent of the Vishnuganga in parganah Painkhanda, is situate at an elevation of 10,560 feet above the level of the sea close to the pass of the same name, also called Chirbitiya-la and Dúngri-la, which has an elevation of 18,650

feet (18,576 according to the Pandit) and lies in north latitude 30° 45′ 27″ and east longitude 79° 27′ 40″. The necessity of travelling for many miles over the vast accumulations of loose rock and *débris* brought down by ancient glaciers, or which violent atmospheric changes have thrown down into the valley from the mountains on both sides, render the Mána pass one of the most difficult in this part of the Himálaya. In actual elevation, too, it exceeds that of any other pass in these districts which lead into Tibet. The road or rather the track, for there is generally nothing that deserves even the name of path, ascends constantly the main valley of the Sáraswati[1] until it reaches the top of the water-parting ridge which forms the boundary with Tibet. The pass itself is somewhat remarkable. There is no apparent ridge to be crossed at the head of the Sáraswati, and the latter part of the ascent still lies through a ravine, the inclination of which becomes less steep as we approach the line of water-parting. The pass itself is a narrow valley filled with the *nevé* of glaciers, and bounded on each side by mountains almost entirely covered with perpetual snow. This valley is apparently almost entirely level for about a quarter of a mile, and the great bed of snow which it contains gives rise to two glaciers which descend in opposite directions, one northwards into Tibet, the other southwards into the valley of the Sáraswati of which it constitutes one of the principal sources. So little is the inclination of the ground near the pass, or rather of the great mass of snow which covers it, that we cross the line of water-parting without observing that we have done so. The Tibetan glacier descends rapidly for about two miles, or perhaps less, into a valley bounded on both sides by high mountains generally bare of snow in the summer months to Poti, the first encamping-ground in Hundes situate about a thousand feet below the pass. Below Poti hardly a vestige of snow is to be seen.

The pass.

There is no extensive view to be seen from the pass in any direction. To the north the plain of Hundes is hidden by bare brown hills with rounded outlines, and on the three other sides nothing can be seen

[1] The Bhotiyas consider a stream which comes from one of the lateral glaciers to the west, and which joins the stream from the north about ten miles below the pass, to be the true Sáraswati, but to avoid confusion we shall speak of the pass stream as the Sáraswati.

but the overhanging snowy peaks and precipices of the Indian Himálaya. On the southern side near the pass there is a much greater quantity of snow than we generally find so close to the Tibetan frontier, a phenomenon caused by the immense elevation which the peaks close to the line of water-parting here attain. We commonly find all the highest mountains some twenty to thirty miles south; but here there is an exception to the general rule, for a cluster of great peaks rise immediately above the line of water-parting at the extreme northern limit of the belt of perpetual snow above the western sources of the Sáraswati, the culminating point of which, called Kámet, attains an elevation of 25,373 feet above the level of the sea. No other peak in this tract attains an equal height except Nanda Devi. The glacier which descends from the pass on the southern side terminates about a mile below near the pool called Deo Tál at an elevation only a few hundred feet less than that of the pass. This pool which is only a few hundred yards long, but which is inserted on some of the older maps, is filled with the drainage of the glacier just mentioned and is prevented from running off, partly by a contraction of the bottom of the valley, caused by a great eruption of granite, and partly by the lateral moraine of a glacier which descends from the west and enters the main valley a little lower down. From Deo Tál to Rátakún (= red corner) hardly a sign of vegetation exists, except here and there some tufts of grass and a few stunted primulas and saussureas and other plants found at great elevations. The path lies constantly over the moraines of glaciers which descend from every lateral ravine or over the ancient accumulations of the great glacier which must once have filled the main valley itself.

Geology.

The chief interest of the geology of this tract consists in the fact that from a little above Mána to the pass, the mountains are apparently formed always of granite (gneiss ?), a rock not generally met with in such vast quantity in the higher parts of the Himálaya. There can be little doubt that this granitic outburst is directly connected with that which we know chiefly constitutes the mountains to the north of the glaciers of the Vishnuganga and with that which forms the great peaks which rise above the sources of the Bhágirathi. It is not until we approach the pass that we get out of the granite rocks

into clay-slates and limestone, apparently non-fossiliferous, and which constitute, it may be supposed, the basis of the Silurian and more recent formations which the Bhotiya reports of organic remains as well as the analogy that we see elsewhere lead us to believe exist a few miles to the north.

Itinerary.

Taking the route up the Alaknanda to Mána, the first stage is usually from Nandprayág to Biri (9 miles), and thence to the Patálganga (11 miles, 3 fur., 35 poles), passing the Garurganga in the eighth mile by a bridge after a rocky ascent and descent for three and a half miles from Pípalkoti along the left bank of the Alaknanda. From the Patálganga to Joshimath (10 miles, 3 fur., 35 poles) for two miles the road is undulating, and descends to the Gulábkoti rivulet where there are some Baniyas' shops; next comes Hilang (1 mile, 6 fur.), also containing shops. Thence to the Koragádh river, a descent, and to the Paini rivulet, an ascent and level (2 miles, 4 fur., 13 poles). Next comes the Gaunk rivulet to which the road is rocky and undulating, and thence an ascent to Joshimath (4 miles, 1 fur., 5 poles) at an elevation of 6,107 feet above the level of the sea in latitude 30° 33′ 24″, and longitude 79° 36′ 24″. There is a bungalow for travellers, a dispensary, shops, and dharmsálas here.

From Joshimath the next stage is Kharchechura (7 miles, 4 fur., 11 poles). The road descending crosses the Vishnuprayág bridge across the Dhauli, and thence to Tharyasánga across the Vishnuganga (2 miles, 3 fur., 7 poles). It then crosses the Ghátmugri rivulet to the Baigar rivulet at Pándukeswar (6,300 feet), and then by Seshdhára to Kharchechura (5 miles, 1 fur., 11 poles). The villages of Ghát, Biundár, Kundi, and Pathari are passed on the road. The next stage is Mána, the last inhabited village in the valley, and the last where there is any cultivation. This is had on a fairly level piece of ground on either side of the Sáraswati where *kotu* and *pháphar* are sown in May and gathered in September. There are no forests near, and all wood used has to be brought from the lower villages. From Kharchechura the road follows the bank of the river to Dyásanga where it crosses by a bridge on to Gorsil, where there is another bridge, thence by Kalyánkoti to the Ránganga bridge and to the Duliyasánga bridge (3 miles, 1 fur., 36 poles). Next comes the Rishiganga bridge and the village of Badrináth (2 fur., 24 poles). The river is again crossed before reaching Mána. The elevation of the temple of Badrináth is 10,284 feet, and of Mána village 10,510 feet above the level of the sea. The road then passes by the Thán stone bridge across the Sáraswati by Músapáni (12,100 feet) to Súnsanga, the eighth crossing to Gástoli (13,300 feet) above the Nágtundi rivulet, the next stage. From Gástoli (13,251 feet) the track follows the left bank of the river by the Sáraswati double bridge and Chámiráo and Dániráo (14,900 feet) to Rátakún (16,100 feet). Hence one march carries one across the pass or *kánta* to Poti, passing by the Tára bridge (16,587 feet), Rákas Tál, Deo Tál, Jagrái (17,200 feet), and the crest of the pass (18,576 feet). From Músapáni onwards the signs of glacial action are everywhere apparent. Here a considerable stream called the Arhua joins the Sáraswati from the east. The glacier from which it springs has now receded so far as to be almost invisible from the track.

From the northern side of the valley of the Arhua comes a huge moraine right across into the middle of the valley of the Sáraswati. It appears to have been brought down by the glacier of the Arhua when the main valley also was filled with ice and after the junction of the two glaciers to have been carried on as a median moraine on the great ice-stream of the Sáraswati. Although from Rátakún southwards the valley becomes less devoid of vegetation as the elevation decreases, yet the whole tract as far as Mána is sterile and dreary in the extreme and the want of pasture for their sheep and cattle and of firewood for themselves on the journey to and from Hundes is not the least of the difficulties with which the Márcha traders have to contend. From a little above Rátakún there was formerly a track to Nílang across the high ridge separating the Sáraswati from the Mánagadh, but this is now no longer used. From Mána village to the pass there are only encamping-grounds, and all supplies must be carried with the party.

Pandit's travels.

Mána was the pass chosen by one of Captain Montgomery's pandits in his expedition into Tibet in 1867. On the 26th July he left Badrináth, 28th, passed Mána (10,510 feet), Kámet on the right, passed by Tára Sumdo (16,587), and the Chirbitíya-la or Dúngni-la pass (18,576), and reached the Lumarti camp on the 29th (16,317), thence by Churkong, the customs station to Totling, whence roads branch off to Chuprang and Gartoh (Rec. G. I. H. D. LXXIV., 34). At Totling (August 6th) there is a monastery about a mile in circumference which is used as a resting-place by travellers. On the 9th the water-parting between the Indus and Satlaj was crossed by the Bogola pass (19,220 feet), and in two days Gugti close to Gartoh was reached. Thence crossing the mountains to the east by the Gugti-la pass (19,490), on the 14th entered on the Chojothol plain with salt brackish lakes at intervals. Thence crossing the Pabala (17,650) came to the Giacharaf camp on the banks of the Indus (15,732). Then crossing the Chomorang-la pass, Thok Jalang, one of the principal gold mines was reached. Returned to Giacharaf, then down the Indus to the junction of the Indus and Gartoh rivers near the Lujan Chamik spring: and up to Gartoh-gansa (winter quarters) on the Gartoh river. Two marches on is Gartoh yársa (summer quarters), the trading depôt.

Tibetan notes.

The following notes of the marches in Tibet were furnished by an intelligent trader who had often made the journey. First march Delu; second Sibuk; third Chipráo; fourth Chaprang. From Poti to Delu (or Delu Dánu), the path goes along the left bank of the Poti river to Delu so-called from a formidable goblin of that name, who is supposed to have his residence here. To Sibuk is a short march for goats. First ascend from Delu across the ridge that shuts in the Poti valley, then descend a little to a pasture-ground called Lumarti, which is about half way to Sibuk. From Lumarti the track proceeds for a mile along a plain, and then descends to a ravine which has its commencement close by. When near Sibuk leave the ravine and turn to the right to Sibuk which is in the plain on the right bank of the ravine. The ravine joins the Sánkara-gár, an affluent of the Satlaj on whose bank is Poting, one of the villages met on the Nilang route. From Sibuk to Chipráo the ground is uneven, but there are no

considerable ascents or descents, and no ravines are crossed. There is no water nor is there any at Chipráo, so that it has to be taken from Sibuk. From Chipráo to Chaprang or Tsáparang is also an ordinary march for goats, and the track proceeds by a deep and broad waterless ravine which joins the Satlaj half a mile below Chaprang. From Chipráo proceed about two miles (one *kos*) along the left bank of the ravine, and then descend and proceed along its bed for 1½ *kos*. Then leave it and ascend the right bank to a pasture-ground known as Lamthangka, and hence onwards for about a *kos* along the bank of the ravine to where the track turns to Chaprang, distant one *kos*. From Chaprang to Toling is one march, and the track crosses the plain to a ravine close by, which is crossed, and again a plain is met for half a *kos* with cultivation, the path lying about half a mile from the Satlaj. The Aychila stream is next crossed, and about one *kos* further lower Mattiya on the bank of the Satláj 1½ *kos* below Toling. Close above Mattiya a great ravine runs into the Satlaj, very deep but dry, and which is crossed by a bridge called Káng-jáng leading to upper Mattiya, which is one *kos* across a plain to Toling. A return road leads by Bárkyu (one march) to Chipráo (one march). From Chipráo to Mangnang is one march.

Mána is the only purely Bhotiya village in the valley. Its inhabitants are called Márchas, a name also given to the Bhotiyas of the Níti valley. The Huniyas call them Dungni-Rongpas from '*Dung*,' the name for Mána and '*Rong*' the tract near India. The people of the other villages are not Bhotiyas, and do not differ from the inhabitants of the parganahs to the south. Their intercourse with the Márchas, however, rather cause them to be looked down upon by the Khasiyas. These villages are Báhmani close to Badrináth, Kiroh, Pándukeswar, Bhyúndár, and Patúri. Pándukeswar and Báhmani belong chiefly to one set of people, the inhabitants living at the latter village during the hot season and returning in the winter to Pándukeswar with the Márchas and the Badrináth establishment. Their caste is called Duriyál, but they are included under the generic term Khasiya. Pándukeswar is the chief of all these villages, and it derives some importance from being the winter residence of part of the office-bearers of Badrináth, and the place of deposit for the valuables of the temple from October until June.

At the time of Raper's visit in 1802, the village of Mána possessed from 150 to 200 houses with a population of 1,400, but in 1822 a great number were destroyed by an avalanche. In 1872 the population was 658. The houses are of stone two stories high, and covered with deal planks: the inhabitants are of the Mongolian type, middle-sized, stout, well made, with olive complexions, enlivened by ruddiness on the cheeks. The dress of the men consists of trowsers, and over them a loose frock, girt round the waist with a cord, and on the head a cap, all of wool. The women, instead of trowsers, wear a loose under garment, the upper differing nothing from that of the men, except in the finer texture and gayer colours. Their head-dress is of cloth, wrapped round in the form of a turban; their necks, ears, and noses, as well as those of their offspring, are covered with a profusion of beads, rings, and other trinkets in gold and silver. The Bhotiyas are not now near so well off as they were owing to the falling off in the borax trade, and

the increase of drunkenness amongst themselves, and there are now few wealthy men amongst them. Formerly, it is said, one of them lent the Rája of Garhwál two lakhs of rupees to assist in repelling the Gorkhális; now there are very few worth twenty thousand rupees.

The following table shows the exports and imports for five years by the Garhwál passes (in rupees) :—

	1878-79.	1879-80.		1880-81.		1881-82.		1882-83.	
	Export.	Export.	Import.	Export.	Import.	Export.	Import.	Export.	Import.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Mána ..	...	11,256	14,215	12,278	15,566	11,628	18,528	24,439	14,561
Niti ...	...	45,037	1,01,133	35,491	1,04,724	38,447	1,91,010	31,283	93,996
Total...	124,778	56,293	1,15,348	47,769	1,20,290	50,075	1,19,538	55,722	1,08,557

The imports by both passes in 1881-82 comprised 3,948 maunds borax worth Rs. 23,688 : 15,716 maunds of salt worth Rs. 62,864, and 1,234 maunds of wool worth Rs. 26,430. In the following year the figures were—borax 2,413 maunds valued at Rs. 19,304 ; salt 15,252 maunds valued at Rs. 61,008 ; and wool 1,001 maunds valued at Rs. 19,747. The exports in 1881-82 included cotton-goods worth Rs. 4,744 ; 14,983 maunds of grain valued at Rs. 40,961 ; *ghí* worth Rs. 1,174 ; sugar valued at Rs. 1,197 ; and tobacco worth Rs. 1,210. In 1882-83 the figures were—cotton-goods Rs. 3,640 ; grain Rs. 38,147 (18,282 maunds) ; sugar Rs. 3,180 ; *ghí* Rs. 5,734 ; and tobacco Rs. 919. The Mána people trade with Totling and the Nítiwáls for wool and blankets with Dába, and for borax and salt at Shibchilum like the Juháris.

Mánasarowar, or Cho (Ts'po) Mapán or Mapham, a lake in the Kangri sub-division of the Puráng district of Nári-Khorsum in Húndes or Tibet is situate in north latitude 30° 43′ and east longitude 81° 30′, at an elevation of 15,300 feet above the level of the sea. It is an object of pilgrimage to Hindus, and was visited[1] in 1846 by Captain H. Strachey from whose journal the following account is taken :—

The route followed through Pithoragarh, Chaúdáns, Byáns *viâ* Lípu-ke-Dhúra and Rákas Tál has been described under those heads. From the north-

1 H. Strachey, J. A. S., Ben. XVII (2), 527 ; the journey to the Lípu-ke-Dhúra Pass is given under *Byáns*, then see *Rákas Tál* and *Puráng*.

ewstern point of Rákas Tál after passing the south and east face of Kailás (see *Kailas*), the track led over the Láchú and Barka streams which were crossed by fords. Then more southerly over sandy ground, but remarkably level with a straight dyke-like ridge some one hundred feet high, close on the left and Rákas Tál visible on the right, about a mile from the path, circling off to a headland, the north end of the projecting rocky bank which occupies the middle of the eastern shore. The ridge of high ground here begins to break into irregular hillocks, a mile further on a large stream one hundred feet wide and three feet deep, running rapidly from east to west by a well-defined channel, is crossed: this is the outlet of Mánasarowar which emerges from the northern part of its western margin and falls after a course of, perhaps, four miles into Rákas Tál, at the bight formed by the projecting headland above-mentioned. Five or six miles on, the middle of the western shore is reached. The Húniya or Tibetan name of the lake is Cho Mápán. It is thus described by Captain H. Strachey:—

"In general characteristics this lake is very like Lagan, but so much more compact in form that the position in the middle of the western shore commands a complete view of the entire lake, excepting only the extreme western edge of the water, which is concealed by the declivity of the high bank on which we were stationed. The figure of Mápán is, as stated by Moorcroft, an oblong, with the corners so much rounded off as to approach an oval, the longer diameter lying east and west. Moorcroft's estimate of its size is 15 miles in length (E. and W.), by eleven in width (N. and S.), though it appeared to me somewhat larger; a circumference of some 45 miles at the water's edge, divided by the eye into four quarters, each of them seem a moderate day's journey of eleven to twelve miles, which agree with the accounts of pilgrims who make the *parikrama* (or circumambulation) usually in five or six days according to their stay at the several gumbas (or monasteries) and other circumstances. Mápán is bounded thus; westward by the hilly ground that separates it from Lagan, of no great height (averaging 250 feet perhaps), but rather steep towards the lake, and apparently having little level shore on the margin excepting at small bays here and there. The northern bank begins in a ridge of high ground rising precipitously from the water's edge, and extending along four or five miles of the west end, the "face of the rock," noticed by Moorcroft in his walk round the north-west corner of the lake "in many places near 300 feet perpendicular." Thence eastward, the shore is a plain three or four miles wide, sloping down from the base of the Gángri mountains, which rise behind in a continuous wall. This ground appears to be a continuation of the plain on the northern shore of Lagan under Kailas, passing without interruption, or with a slight rise perhaps behind the ridge of hills above-mentioned. Moorcroft estimates the valley of Gángri to be twelve miles broad and twenty-four long: that length may be right, but the breadth is not clear; if the twelve miles be intended to include the whole basin of the two lakes, it is considerably under the mark; and the mere plain between the Gángri mountains and the northern shore of the lakes cannot average anything like that width.

Moorcroft was then encamped in the vicinity of Barka, and he possibly estimated the breadth of the plain from its appearance at that point, where it is certainly very much widened by the southing of the eastern shore of Rákas Tál.

At the north-east corner of Mápán the level ground is widened by the rounding of the lake; it looks greener than the rest as though irrigated by streams of water, and is said to be pasturage occupied by Dung, &c. This was noticed by Moorcroft as 'a plain at the foot of elevated land . . . . to the north-east.' On the east side of the lake rise hills and mountains sloping down to the water's edge with more or less margin of level ground at the bottom. The northern half of this range is mere hill of no great height, connected at the north end with the base of the Gángri mountains, and on the south joining a cluster of mountains that occupy the southern half of the lake's eastern shore: the latter seemed as lofty as the lower parts of the Gángri range.

On the south side of the lake in its eastern half rises sloping ground, then hills and behind all the Indian snowy mountains, a blank dismal chaos, in appearance rather broad than lofty, the further end receding southward and the nearer advancing towards the lake, till it terminates in Momonangli. This great mountain occupies all the western half of the lake's south bank; its upper and greater part a vast towering mass of pure snow, the base in earthy mounds, almost bare of verdure, sloping right down to the water's edge. The isthmus of low hilly ground that forms the western boundary of the lake joins the foot of Momonangli. The view of Mánasarowar confirms all accounts of native informants, which all agree in stating that the lake has no other affluents than a few unimportant streams rising close by in the surrounding mountains, and but one affluent, that communicating with Rákas Tál. The two lakes are placed together in a basin, girt about by an *enciente* of hill and mountain from which the only exit appears to be at the north-western extremity opening into the glen of the Lajandák stream. The outlet of Mápán leaves the lake from the northern quarter of its west side.

The permanent affluents of Mápán are three or four: (1) a stream rising in two branches from the Gángri mountains and falling into the lake at the eastern quarter of its north side; (2) also from the Gángri range a few miles further east, entering the lake at the north-east corner, at the very same point is the mouth of the third stream, which rises in Hortol behind the mountain at the east end of the lake, and flows round its northern base. The presence of these three streams accounts for the greater verdure in the ground above the north-east corner of the lake. Sátáling is the name of the pasture-ground on the bank of the second river, through which the Lhása road passes, and thence along the north bank of the third. The fourth affluent is doubtful: a stream possibly comes from the Nepál-Himálaya into the south-east corner of the lake. In the summer season there are many temporary streams from rain and melted snow, and it was probably one of these Moorcroft saw and called the 'Krishna river,' on the south-west corner of the lake.

There are eight Gumba on the banks of Mápán, *viz.*:—

1. Tokar (Thui), about the middle of the south side; this is sometimes called a village, but it is a mere monastery somewhat larger than all the others.

2. Gusur (Gozul), at the middle of the western side.

3. Ju, at the northern quarter of the west side and the north bank of the outlet.

4. Jakyab (Jankheb), at the western quarter of the north side where the high bank terminates; this probably is the "house inhabited by Gelums" (Gelongs), 'with terraces of stone with the usual inscriptions;' near this Moorcroft encamped in 1812.

5. Langbuna, *i. e.* (elephant's trunk), in the middle of the north side.

6. Bundi, at the north-east corner, between the first and second affluents.

7. Sarlung, in the middle of the east end; and

8. Nunukhar (Pánkpo), at the south-east corner of the lake.

The water of Mápán is quite clear and sweet, and in mass of the same fine blue colour as Lagan. In picturesque beauty the eastern lake is hardly equal to the other, its uniform outline being comparatively dull and monotonous, the surrounding hills blank and dreary, and the gigantic grandeur of Gurla less pleasing, perhaps, than the majestic beauty of Kailas. The depth of these lakes is possibly an average of 100 feet or so, and double that in the deepest places.

Thermometer in shade at 3 P.M., October 3rd, 46°; water boiled at 186°; elevation of the lake 15,250 feet, or 500 feet higher than that recorded by Montgomery's Pandit in 1867. There are no boats on the lake, and the only one probably ever launched on its waters was an India-rubber one, conveyed there by an English traveller in 1855, for permitting which, it is said, the Zungpun of Daba was decapitated by the Lhásan Governor. In an old Chinese map, Mánasarowar is represented as a four-headed gargoyle pouring out streams of water from the mouth of each animal—a lion, elephant, cow, and horse. Some account of these and their local names has already been given,[1] as representing the Indus, Satlaj, Karnáli, and Brahmaputra. The common legend concerning them is, that the Indus is called the 'Lion-river' from the bravery of the people through whose country it flows; the Satlaj is called the 'bull (not 'elephant') river' from the violence of its stream; the Karnáli is the 'peacock river' from the beauty of the women who live along its banks, and the Brahmaputra is called the 'horse river' from the excellence of the horses in the country through which it passes.[2]

Mandákini, a river of Malli Kálipháṭ and parganah Nágpur in Garhwál, rises near the Tihri boundary at the south-eastern base of the Kedárnáth peak, in north latitude 30°-47′ and east longitude 79°-8′. It holds a course generally southwards, and in latitude 30°-38′ receives on the right bank the Sini river near Sondwára, and in latitude 30°-33′, on the left bank, the Káli river below Kálimath, and a little lower down, on the same bank, the Madhmaheswar or Bira river near Nálá. Still further south the Agaskámni, Kyúnggár and Sangár join the Mandákini on the left bank, and on the right bank are the Pabi, Gabíni, Byún, Raun, Dárma and Lastar torrents: continuing to flow in a southerly direction it falls into the Alaknanda on the right bank at Rudrprayág

Gaz. XI 292 (Note).[3] J. A. S. Ben. XIII. 172; Rec. G. I., Home Dept. LXXI. 156.

in north latitude 30°-17′-10″ and east longitude 79°-1′-32″ after a course of about 45 miles. The water-parting ridge to the west of the Mandákini forms the boundary with Tíhri as far as Agastmuni, thence to Rudrpayág, the Mandákini itself, and further south the Alaknanda. The forests along its banks have afforded large numbers of sleepers to the East Indian Railway.

Mandál, a river rising on the southern slopes of the ranges lying in the eastern parts of Pattis Badalpur Talla and Painún of parganah Talla Salán of British Garhwál, has three main sources. The most westerly rising near Maraura in Talla Badalpur takes a south-south-easterly direction though Painún and passing the villages of Jámri and Dobriya joins the main stream near Jharat. The main branch rises close by in the eastern declivities of the Dhárgaon range. The third branch drains the eastern half of Patti Painún and flowing nearly due south by Badaniyagaon and Kotri joins the main stream at Raunderi. The united stream flows nearly due east through Pattis Painún, Búngi and Bijlot with a course of about twenty miles until it joins the Rámganga on the western bank at the head of the Pátli Dun above Sarapdhúli in latitude 29°-34′-40″ and longitude 79°-8′-25″. The Páori and Dháron road passes along the right bank of the Raunderi feeder, and another road runs up the left bank of the Mandál to its source in the Dhárgaon range, and there crosses the watershed into the Haldgadi valley. In the dry season the Mandál is a petty stream with a breadth of about 24 feet, but its bed is 50 or 60 feet broad, showing that it becomes a river in the rains. For the last ten miles of its course it has a very slight fall. Its water is largely used for irrigation, there being many fine flats along its banks which are highly cultivated. The hills on each side are covered with virgin *sál* forests which form one of the most valuable reserves of the Forest Department.

Manyársyún, a patti of parganah Bárahsyún in Garhwál, lies in the south-west corner of that parganah along the right bank of the Nayár. It is occupied by the valleys of the Thanúl and Kún streams and possesses very varied soil and climate. The soil is, as a rule, good but stony ; there is no forest, but a good deal of scrub jungle. The people wear cotton clothes and their market is Kotdwára. The roads from there to Srínagar pass through this patti

besides several cross-paths. The name is derived from the Manyár caste who colonised the patti. The patwári usually resides at Dángi within the patti. The land-revenue assessed in 1864 amounted to Rs. 2,329, including *sadábart*, and Rs. 67 for *gúnth* and resumed revenue-free lands, on a population of 3,315 souls.

Mápa, or Mápán, a small Bhotiya village in Patti Mallá Juhár of parganah Juhár in Kumaon, lies on the right bank of the Gori river on the route to the Unta-Dhúra pass into Húndes by Milam in latitude 30°-22′-50″ and longitude 80°-12′-20″, with an elevation of 10,880 feet above the level of the sea. It is distant five miles from Milam, 14 miles from Bo-udiyár, four miles from Martoli, and 116 miles from Almora. The Gori flows below at a depth of 250 feet. The country around is above the limit of forest vegetation producing only a few creeping junipers, barberry and gooseberry bushes and other similar alpine shrubs. On the opposite side of the Gori river lies the route from Milam by Burphu to Rálam and Munsyári. Mápa has an area of about 32 acres of arable land and a population of about one hundred. The rocks are clay slate and greywacke with a good many masses and fragments of quartz.

Martoli, a considerable village in Patti Malla Juhár of parganah Juhár in Kumaon, lies in latitude 30°-21′-15″ and longitude 80°-13′-40″, on the right bank of the Gori river, at an elevation of 11,070 feet above the level of the sea. It is passed by the route through Milam to the Unta-Dhúra pass, from which it is distant 18 miles south: 9 miles from Milam, 10 miles from Bo-udiyár, and 112 miles from Almora. The houses are constructed very low and in hollows and ravines, with a view to protection against avalanches and the furious gales which continually blow from the south. With a similar object, the roofs have a low pitch and are firmly overlaid with a coat of compact clay. The Bhotiyas are obliged to abandon their homes here in the early part of October for the milder climate of Talládes. The route from Milam to Martoli is somewhat difficult. Close to the village, on the north, the Lwálgadh comes down from considerable glaciers on the western slopes of a range having peaks over 20,000 feet high.

Masi, a travellers' rest-house and village in Patti Tallá Giwár and parganah Páli of Kumaon, is situate on the left bank of the

Rámganga river in latitude 29°-4′-30″ and longitude 79°-14′-42″, distant 12 miles 1 furlong 22 poles from Agaspur on the lower road to Páori: 16½ miles from Dwárahát, 8¼ miles from Deghát, 9 miles from Ganái, and 11 miles from Bikiya-ke-sain. From Agaspur to Másí the road descends by Basai to Dhár and thence to the Banau river, 3 miles 5 furlongs 18 poles. From hence the road passes Naugaon and ascends to Chaukotiyadhár, 3 miles 6 furlongs 7 poles; to Kulchhipa level and Kulchhipadhár, an ascent whence a descent leads to a bridge across the Rámganga, a little below the travellers' bungalow, 5 miles and 8 poles from Chaukotiyadhár.

Maundársyún, a patti of pargana Chaundkot of British Garhwál, is bounded on the west by the western Nyár river, which separates it from pargana Bárahsyún; on the south by the eastern Nyár, which separates it from pargana Talla Salán, and on the north and east by pattis of Chaundkot. The Páori and Kotdwára road runs along the left bank of the Nyár to the south of the patti. A cross-path from Ukhlet near the confluence of the two Nyárs runs northwards along the ridge forming the eastern boundary of the patti, and another along the left bank of the western Nyár forming its western boundary. In 1864 twelve villages were received from Patti Badalpur. The patwári resides at Bachheli in the patti, the revenue of which in 1864, including *sadábart*, amounted to Rs. 2,400 *plus* 22 for revenue-free and resumed *gúnth* lands. The population in the same year numbered 4,463 souls.

Máwalsyún, a patti of parganah Chaundkot of British Garhwál, is bounded on the west by parganah Bárahsyún; on the south by Ringwársyún; on the east by Kimgadigár, and on the north by Khátsyún and Ghurdursyún. The patti is drained by a small tributary of the Nyár which also forms its southern boundary. The name Mawál is that of a caste that colonised the patti. The patwári of Ringwársyún, residing in Gajera, has also charge of Mawálsyún and Jaintolsyún, with an aggregate land-revenue of Rs. 2,392 and muáfi and *gúvth* of Rs. 71, total Rs. 2,463. The Nyár is crossed by a bridge at Jwálpa near Buret in this patti on the road to Páori.

Meldhár, a patti in parganah MállaSalán of British Garhwál, is bounded on the north by Dhaundyálsyún and Lohba; on the

west and south by the former pattis, and on the east by Chauthán. The patwári of Chauthán, residing in Thán, collects the land-revenue of this patti also. Pattis Meldhár and Dhaundyálsyún form the valley of the Pasol-gádh with a portion of the eastern Nyár above the junction of the two. The majority of the villages are of a superior class; there are extensive oak and pine forests; the rocks are slates. Markets are found at Rámnagar and Pútiya, and the clothing of the people is hempen, woollen or cotton.

Milam, a village in parganah Juhár of the Kumaon district, is situate near the confluence of the Gori and the Gunka rivers, 170 miles north of Almora and 13 miles south of the Unta-Dhúra pass. The houses are strongly built of large stones laid without cement, and covered with heavy slates overlaid with a compact coat of clay. On the side of the mountain, close to the north-east of the town, is a temple, on a cliff overhanging the river.[1] Around are a few acres of cultivation, producing scanty crops during the interval between June and October, for which period only the place is inhabited, the population for the rest of the year residing in the lower and more southern part of Kumaon, to avoid the deep snows which everywhere overlie the country, and the enormous avalanches which incessantly roll down from one or other of the stupendous mountains in the vicinity. They revisit their mountain abodes in the succeeding summer, less with a view to any advantages derivable from the scanty cultivation and pasturage than to ply their lucrative traffic with Tibet. The Juhári Bhotiyas have the privilege of trading with all marts in Tibet and are the most influential and numerous of all the Bhotiyas. Taking the Kumaon passes alone, the value of export and import for five years are as follows (in rupees):—

	1878-79.	1879-80.		1880-81		1881-82.		1882-83.	
	Export.	Export.	Import.	Export.	Import.	Export.	Import.	Export.	Import.
Juhár ...	85,845	52,578	1,01,084	48,022	1,39,081	52,277	1,58,377	52,134	1,44,684
Dárma & Byáns ...	1,26,113	56,009	1,09,827	51,091	1,24,799	86,308	1,14,486	86,456	90,691

The story of the colonisation of Juhár has been given[2] elsewhere, and here it is only necessary to state that the inhabitants are called Ráwats by themselves and Sokpas by their neighbours, the latter term betraying their Tibetan origin. At the settlement of the land-

[1] Gaz. XI. 455. [2] Gaz. XI. 455.

revenue the population numbered 1,494 souls, of whom 692 were females. In 1822, during the absence of the Bhotiyas in the plains, their houses were plundered by a party of Khampas from Tibet, who were, however, obliged by the Tibetan authorities to restore their spoils. The elevation above the sea of the temple is 11,706 feet, of the town is 11,430 feet, and of the bridge across the Gori is 11,368 feet (As. Res. XVII. 4). The Sumchi Kund, a small pool up the bed of the Gori near the village, is an object of pilgrimage. The seasons of spring, summer and autumn are comprised within five months from May until September inclusive, but intervals of four months without snow are rare. During these seasons the thermometer at sunrise ranges from 40° to 55° and at mid-day from 65° to 75° in the shade and from 90° to 110° in the sun. On September 24, at 8 A.M., the thermometer registered 27° and wet bulb 31°. At 12-20 P.M., barometer 19°9, thermometer, 69°; air, 66°·5; wet bulb, 42°, and covered with black wool and laid on the ground, 102°.

The following account of the route from Milam to Almora is taken mainly from Manson's journal:—

The road proceeds by Pánchhu and Martoli to Laspa along the right bank of the Gori river. The road very fair except immediately beyond Pánchhu, where after crossing the stream there is a very difficult steep ascent for some hundred feet over earth and stones. Formation clay slate as you approach Laspa, near which the river widens considerably and the track passes under some lofty and precipitous rocks, a perfect wall for some distance where a landslip occurred in 1838. A little beyond this is a fine open space up which at about half a mile is the village of Laspa on a rising piece of ground. The vegetation increases rapidly from Rilkot and the whole face of the country loses the barren and naked apperance of the upper part of the valley. Nothing can be more striking than the passage from the extreme barrenness of the upper passes to the gorgeous vegetation of the lower where first the birch and dwarf rhododendron with firs, yews, cypresses, maples, sycamores, chestnuts, oaks, alders, and box, intermixed with rich underwood and flowering plants, delight the eye.

Thence to Bo-udiyár, the Bo-cave, the Baugdiar of the maps, and the Boodur and Bagdwar of travellers (8,550 feet), ten miles from Laspa and five from Rárgári. The road very bad. Crossed the river twice, once over a spar-bridge, and recrossed over four smaller ones more like ladders thrown from rock to rock where the river has a great fall below a lofty precipice, and where the whole mountain forms a complete wall from the summit to the base which is washed by the stream. Beside the ladder across the stream there are several others along the road which would be impassable without them. From Laspa

passed Rárgári or Rára; the village lies about half an hour's ascent up the mountain. The encamping-ground is on the right bank of a torrent-feeder of the Gori (6,910 feet), along which are some grand waterfalls. From Rára a pass is crossed to Lílam; ascent tolerably easy but slippery in many places with a descent long and tedious to the junction of the Sái or Jaimiya with the Gori, the first part of which is very steep down numerous flights of steps; the way lying in many places just around the brow of the mountain overhanging the stream below. The whole road lies over a gneiss formation, little or no granite being observed. The ascent hence to Jalath in Munsyári is very steep and rocky and hardly passable for ponies. About two and a half hours' march from Jalath the Kálamundi range is passed. On approaching the pass, the rock passes from gneiss to mica slate, which continues some way down and then passes into gneiss, again with beds of white talcose slate. A little gneiss is met as the path descends to Girgaon, andt hence the road is fair to the Jákala Nadi, a tributary of the Rámganga along which it proceeds to Kuiti, and the confluence at Tejam. The rock near Girgaon consists of gneiss and a little below of talcose limestone with veins of gneiss. From Tejam the road turns westward and for a short distance up the Rámganga crossed by a *sanga* near Rámári, the ascent to which is very steep. A further ascent brings the traveller to the pass over the range separating the Sarju from the Rámganga and on to Sáma. Rock of a talcose formation, northern aspect of the rise to the pass well wooded, southern bare of trees. Sáma is a very pretty village, the scattered houses embowered amid some fine horse-chesnut trees; hence an hour's walk to Nákúri and to Baret in two. At Nákúrí a second stream joins the one from Sáma. Rock is generally a species of limestone with conglomerate and very frangible; a second rock is nearly black and breaks into numerous small angular fragments. Passing by Khárbagr, the next stage is Kapkot in the Sarju valley on the line to Kháti-Pindari (*q. v.*)

Mohand, commonly called Mohan, the name of the principal pass between the plains and the Dún, also called the Kheri pass, from a once flourishing town of that name in the Saháranpur district, and better known to the people as Lál Darwáza. It is pierced by an excellent carriage road seven miles long, which, however, often gets broken up in the rains by the constant heavy traffic to and from Mussooree.

The following table shows the principal heights along this road, as ascertained by the Great Trigonometrical Survey:—

Place.	Height.	
Mohand ...	1,489·40	Stone bench-mark embedded about six yards east of the new road.
Shorepur ...	2,606·31	On the highest part of the pass near Shore's Chauki.
Eighth milestone,	2,504·79	Top of pillar from Dehra.
Mahobwaála ...	2,096·56	Stone bench-mark on west side of the road.
Dehra ...	1,957·65	East end of base line marked by a tower.

FOR THE NORTH-WESTERN PROVINCES GAZETTEER.

From a Photograph by Bourne and Shepherd.

Photo-Collotype, Survey of India Offices, Calcutta, August 1881.

MUSSOOREE.

Munshyari, the name given to the collection of villages on the right bank of the Gori river in Patti Goriphát of parganah Juhár in Kumaon, occupied by the Bhotiyas as their winter retreat and depôt for the trade with the lower sub-divisions of Kumaon, is distant twelve miles from Girgaon, eighty-one miles from Almora, and eight miles from Lílam. Supplies are obtainable here. From Lílam to Jalath there is a fair road crossing the Sái or Jaimiya stream and again the Súrhing stream. The ascent thence to Jalath is very steep and rocky, and not rideable for more than a few hundred yards. Munshyári comprises some twenty or thirty villages inhabited almost exclusively by Bhotiyas. The villages of Jalath, Gorhpáta, Bothi, Daránti, Súrhing, &c., contain not only the best houses in Juhár, but they excel in size and appearance those of the Almora bazár, and, indeed, of any place between the Satlaj and the Káli. The woodwork and the masonry employed are both richly and tastefully carved in the principal houses.

Mussooree (Mansúri) in the Dehra Dún district is situate[1] in north latitude 30°-27′ and east longitude 78°-6′, seven miles from Rájpur and fourteen miles from Dehra, at an elevation varying from 6,000 to 7,000 feet above the level of the sea, and having an area of 14,214 acres or 22·20 square miles. The following heights have been fixed trigonometrically :—Above the Botanical Gardens, 7,187 feet; top of Camel's Back, 7,029 feet; station of Great Trigonometrical Survey on Vincent's Hill, 7,006 feet; Convent, 6,985 feet; Great Trigonometrical Survey Observatory, 6,923 feet; Library, 6,590 feet; and Jharipáni Bazár, 5,180 feet.[2] The population varies with the season. On the 17th February, 1881, there were 3,106 souls (692 females), of whom 2,022 (407 females) were Hindús: 644 (134 females) were Musalmáns, and 440 (151 females) were Christians. On the 15th September, 1880, the population numbered 7,652 souls (1,961 females), of whom 4,162 (776 females) were Hindús; 1,625 (287 females) were Musalmáns, and 1,857 (897 females) were Christians. The population is entirely non-agri-

[1] The following notice is based on an article by Mr. F. Fisher, B.C.S., who acknowledges the aid received from Dr. McConaghey; Mr. J. B. N. Hennessy, C.S.; Mr. F. Giles, C.S.; Rev. A. Stokes; Mr. F. Duthie; and Mr. G. R. Williams' Memoir. [2] Other heights in the neighbourhood are Láltiba, 7,459 feet; a peak to the north-west of Láltiba, the sides of which are occupied by the Landaur cantonment, 7,534 feet. To the north are two low peaks, 6,572 and 5,779 feet respectively. To the west are Háthipaon, 7,088 feet; Banog, 7,432 feet, and Bhadráj 7,318 feet.

cultural, chiefly visitors, servants, shop-keepers, and carriers. The number of inhabited houses, which in 1840 was not more than 100 and in 1862 about 141, had risen in 1881 to 354.

Mussooree is situate on the first range of hills running from east to west parallel to the Dún and Síwáliks, and on the lateral spurs therefrom having a direction north to south. It is approached from Saháranpur, at present the nearest railway-station, by a wide and metalled carriage road as far as Rájpur, which is continued in a narrower and steeper one to a point about a mile out of Rájpur, when the traveller has his choice of two roads: one a steep bridle-path leading directly to the station, and the other a road constructed with a gradient so moderate as to allow of trucks laden with beer-barrels travelling up and down. This last was constructed on a survey made by Mr. Mackinnon and at his expense for the use of his brewery. This road is still kept in repair and used by the two breweries, but the public use the shorter and more steep ascent for riding, coolies and pack-animals, the distance by it being only seven miles, just one-half the distance by Mackinnon's road. At the point where the roads separate there is a toll-bar, which was leased by the municipality in 1880-81 for Rs. 8,000. The bridle-path, as far as Jharípáni, is steep and rugged, and thence to the Mall fairly level. A good pony should ascend in an hour and-a-half to two hours and descend in one hour.

The appearance of the station from the approach above Jharípáni is that of a series of undulating hills extending from the range on the left bank of the Jumna to the west to the heights on which the cantonment of Landaur is situate on the east. The middle space between Vincent's Hill and Landaur contains the greater number of the houses of Mussooree itself.[1] These houses are built at a considerable distance from each other, except in the neighbourhood of the Club, where, perhaps, they are too crowded for proper sanitation. There is no naturally level area of any extent along the portion facing the Dún, and the sites of the houses have in nearly all cases been made by excavation or filling up on the ridges and slopes. Mussooree possesses one wide road, known as

[1] From the first house on the Rájpur road to the last one to the west is a distance of nine miles.

the Mall, which leads from the library to the Landaur Post-office. On the west it divides into two bridle-paths, one leading to Vincent's Hill and the other to the Happy Valley. From the eastern end the road continues from the Post-office through the bazár to the cantonment; a branch road striking off at the foot of the Landaur Hill to Tíhri. Immediately to the east of the library is the hill called the Camel's Back, studded with huge boulders which occasionlly roll down after the winter snows and frost have loosened them from their positions. The part immediately below this hill is the only portion of the station which stands in any apparent danger from falling boulders. The southern slope of Vincent's Hill and the hill on which the Club is built, have, however, the reputation of being liable to land-slips, and the roads in the neighbourhood of the latter hill are continually giving way after heavy rain.

All along the approach will be noticed the numerous drainage channels which conduce so largely to the healthiness of the station by carrying far down into the valleys the impurities that may reach them. These streams feed the Rispana on the east and the Kiyárkuli stream on the west, which in turn, after some distance, over a sandy bed form the head-waters of the Dún canals. They are, with few exceptions, not used for drinking purposes, the water-supply being drawn in pipes from good springs elsewhere. The slopes immediately below Mussooree are terraced and cultivated and possess facilities for irrigation by simply damming up the drainage channels already noticed. The villages of Bhatta and Kiyárkuli are particularly well situate in this respect. The Crown Brewery above the Bhatta village receives its water in pipes from a spring of pure water at some distance. To the right of Bhatta are the schools known as St. Fidelis' Orphanage and St. George's College. Above these Barlowganj is reached, where the road divides, one leading direct to Landaur and the other to the library. Christ's Church stands to the right of the library above the Mall. The walk round the Camel's Back and Mall is two miles six furlongs 118 yards: that round Waverley by Tullamore and Clairville, two miles two furlongs 114 yards, and the Castle Hill and Landaur circuit, six furlongs 122 yards.

The following short sketch of the geology is taken from a notice in the Journal of the Asiatic Society :—

Geology.

"The formation here consists of beds of compact limestone alternating with others of a soft slate with an earthy fracture, and exhibits certain characteristics, both in its mineral structure and in its general outlines, analogous to the transition limestone of the north of Europe, and the mountain limestone of England. Its most general colour is bluish black, and from this it passes through grey to greyish white, and again, on the other side, to perfect black, not differing there from the lucullite, or compact black marble (as it is called). It is carboniferous and highly cavernous. Many varieties emit a fœtid smell, probably of sulphuretted and carburetted hydrogen. Indeed, where the rock is quarried, the smell is similar to that at the mouth of a coal-pit. These carboniferous or coaly varieties have, however, one peculiarity ; they are in some places highly vesicular, so much so as to resemble a grey lava, and in this state appear to have partially suffered from the action of heat.

The slate that alternates with the limestone is of various colours, bluish black, grey, greenish grey, brownish red, purplish and yellow. It is generally soft, and crumbling, and will not split into large plates ; but about two miles west of the station, below the peak called Háthipaon, and nearly half way down the hill, a bluish black variety is found, hard enough to be used as a roofing-slate. Somewhat to the west of this, on the Dudhili hill, a trap rock makes its appearance. It is to be met with at the bottom of a small water-course, and may be traced for about half a mile in a direction nearly parallel to the range of the mountains.

It is composed in some parts principally of compact white felspar and green diallage, in others principally of hornblende. It is not possible to trace the manner of its connection with the adjacent strata, which are evidently much disturbed, though they have not suffered any change in mineral character by contact with it. Probably it has cut through them as a dyke, and the continuation of it may again be met with about a mile to the eastward, where a black heavy trap is to be seen, containing crystals of bronzite imbedded. The general range of these alternating beds of slate and limestone appears to be nearly parallel to that of the direction of the mountains, but not exactly so, as it approaches somewhat more to a north and south line, the dip being a little to the northward of the east, and the angle of it from 20° to 30°. The slopes are very steep, usually covered with a luxuriant vegetation, and remind us of those in Cumberland and Derbyshire, though, of course, on a much larger scale. In the Mussooree rock, however, there is a great deficiency of mineral veins. To the east, at a short distance beyond the Landaur hospital, a quartzy sandstone comes to the surface of a white and greyish colour lying upon a soft earthy slate."

Dr. Fisher,[1] in 1831, notes the position and structure of Landaur. He writes :—

"Viewing this mountain from the Dún, its general aspect determines its composition : the gentle acclivity, round-packed summit, and plentiful vegeta-

[1] J. A. S., Ben. I., 193.

tion indicates clay slate . . . . . Ascending from Rájpur the road is cut through a bed of bituminous slate, passing through alum slate of a bluish green colour, both of which are much decayed, and then traverses clay slate of a faded red colour; black limestone next appears, frequently intersected by flinty slate and Lydian stone; about a quarter of a mile below Jharípáni large beds of primitive gypsum with earthy sulphate of lime occur, and this may be considered the commencement of the Mussoorée limestone formation. The road continues with slight variations in a westerly direction, and displays huge beds of grey limestone with one remarkable tract of calcareous tufa; after which clay slate re-appears, generally much indurated, iron-shot, and containing beds of flinty slate, with irregular nodules and schistose veins of brown clay iron ore. The colour of the clay slate now passes into faded red, and running in a northerly direction the road leads to Landaur. The whole of the Mussooree range consists of large masses of stratified limestone inclining at a gentle angle to the east; in colour its bluish-gray passing into black and white highly crystallised."

Botany.

The comparative bareness of the hills above Jharípáni is due to the wholesale cutting down of the forests for building and firewood since the station was founded, and the demand is so constant and pressing, that in a few years there will hardly be a good tree standing within some miles of the station. So valuable have the few patches of forest become that recently Snowdon and the Park were sold for a considerable sum, chiefly for the timber on them. The list of the plants of Dehra Dún, Garhwál, and Jaunsár-Báwar, prepared by Dr. King of the Royal Botanical Gardens, Calcutta already given,[1] is fairly complete, and should aid the student in naming any local collection. The mildness of the temperature induced Dr. Royle, of the Saháranpur gardens, to establish a branch garden here in 1826, and subsequently a second one was formed as a nursery for fruit-trees at Chhajauri, about four miles off. A proposal is now before Government to remove the gardens to a site near Jharípáni. In 1880-81. the gardens cost Rs. 3,082 and brought in Rs. 917 from the sale of seeds, plants, and fruits. The upper garden possesses some well-grown specimens of Himálayan conifers, deodárs, spruce, cypress, pine, fir, yew, and juniper, besides horse-chestnut, poplar, oaks, box, birch, and maple. There are European fruit-trees, apples, pears, plums, peaches, quinces, and edible chestnuts; though the aspect of the upper garden is not favourable for ripening the better sorts for which the Chhajauri garden appears to be well fitted.

[1] Gazetteer X., 393.

Climate.

The climate and health aspects of Mussooree are, as a whole, very favourable. The average rainfall, based on the records from 1844 to 1855, and from 1860 to 1877, or a period of 29 years, give an annual average of 92·08 inches. Distributed month by month the results are as follow :—

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
1·92	3·08	3·47	1·77	3·22	8·43	28·48	29·31	10·39	0·77	0.18	1·06	92·08

"The rains," writes Dr. McConaghey, "begin almost invariably about the middle of June, preceded by a few showers called the *chhota-barsát*, and continue until near the end of September. This is the most unpleasant and least invigorating period of the year. From the end of March until the beginning of the rains, the climate is delightful, though the sun's rays are oppressive for a few hours of the middle of the day, the mornings and evenings are always cool. The period of the year from which the greatest benefit to health is derived is unquestionably from the cessation of the rains until the end of December, and this is especially seen in the case of delicate children."

The temperature varies considerably with elevation and aspect, but in good houses the thermometer seldom records above 70°, whilst as low as 10° is occasionlly registered during the winter. During 1879 the maximum and minimum temperature in the shade for some months was as follows :—

	January.	February.	April.	May.	June.	July.	August.	September.
Maximum ...	60·1	63·1	84·2	91·3	89·3	78·1	76·1	76·1
Minimum ...	34·7	33·7	48·9	55·0	52·0	60·1	60·1	55·0

The ordinary water-supply from natural sources is good in quality and quantity, and the recently executed works for a supply of drinking water by pipes from near the Kulri Hill leaves little to be desired in this respect. In 1881, four samples of water from different sources were examined, with the result that they were

found exceptionally free from organic impurities with an excess of mineral salts. These salts were, however, contrary to the usual accepted idea, chiefly magnesian, not lime, and did not exist in sufficient quantity to render the water deleterious. They almost entirely disappeared on boiling the water—a precaution that should invariably be adopted in the hills.

"The so-called malarious fever," writes Dr. McConaghey, "and their sequelæ, from whatever cause they may be said to arise, are most favourably influenced by the climate of Mussooree. A season's residence almost invariably causes an entire elimination of the unknown poison. Intermittent fevers acquired in the plains will often recur for some months after arrival in the hills, but each successive attack becomes milder, and they soon stop altogether. Remittent fever, as a rule, observes a mild course. Enlargements of the liver and spleen, the result of malarious fever, are much benefited by a residence in the hills, and these organs under favourable circumstances soon resume their normal size and functions. Mussooree is singularly free from fevers of the infectious and contagious class. Their spontaneous generation is exceedingly rare, but they are sometimes imported and afterwards spread. Liver affections are, perhaps, the most common of the diseases from which Europeans suffer, and are doubtless due, in many cases, to not adopting proper clothing immediately on arrival. The reduced temparature, about 20°, interferes with the action of the skin, and congestion of some of the internal organs is often the result. The most common of these are congestion and inflammation, more rarely abscess and cirrhosis. Liver complaints, unless due to malaria, are not readily amenable to treatment in the hills. Respiratory affections are naturally prevalent, more especially among the very young and very old, and in persons debilitated and unable to stand the changes of climate. The most common are bronchitis, croup, pneumonia, and common colds. Laryngial catarrh is often met with assuming the appearance of croup, and like it very liable to recur, but the membrane peculiar to croup is not developed in the air passages. Phthisis is occasionally seen, but patients suffering from this disease do not appear, in my experience, to derive much benefit from a residence in the hills. Heart diseases, on the whole, seem to be unfavourably influenced, Bowel complaints are common, especially diarrhœa, which, however, generally arises from a deranged state of the liver. Bronchocele, though rarely met with amongst Europeans, is very common among the natives. The quantity of magnesian salts present in the drinking water would appear to account for this. It is readily cured if seen early and subjected to proper treatment. Rheumatism is not common among the Europeans, but natives suffer very much from it. Cholera has never occurred endemically, but several times it has been imported and spread. In 1880, the death-rate was 56 per thousand, a very high rate when compared with the average of all the Municipalities in the north-Western Provinces, 37·37, but it must be remembered that Mussooree is the resort of the sick and infirm. In 1882, the death-rate was only 23·5 per thousand with a birth-rate of 30·58, calculated on a population of 3106, the provincial death-rate in Municipalities being 37·75.

Public institutions.

Mussooree attracts a large number of visitors from the plains, for whose wants there are several hotels, banks, and schools. The principal hotels are the Himálaya, close to the banks and bazárs; the Charleville, in the Happy Valley; the Woodville close to the Club, and the Caledonian at the foot of the Landaur hill. There are also a few boarding establishments. The banks are the Mussooree, Himálaya, and Delhi and London. The Club, known as the Himálaya Club, comprises a handsome library and hall-room, dining, billiard, and writing-rooms, besides a double-storied range of buildings containing excellent accommodation for twenty-five resident members. The Municipal Hall, reconstructed in 1880, gives a fine large room for ball, theatrical, and other entertainments, with supper and dressing-rooms adjoining. The library is managed by a committee of subscribers and is a favourite institution and well-supported. A paper, called the *Himálaya Chronicle*, is published during the season. The Mussooree School was established by the Rev. R. N. Maddock in 1849, and was purchased by the Diocesan Board of Education in 1867: it gives tuition to some 96 boarders and 14 day pupils. It is affiliated to the Calcutta University and educates up to the B. A. standard. The Roman Catholic School, St. George's College (Manor House), was founded by Bishop Carli in 1853, and has 81 boys on its rolls. The Rev. H. Sells conducts a preparatory school for young boys, as also the Rev. J. Parsons and Mr. H. Wood. Caineville House School is the Diocesan School for girls, and was established in 1865. The average number of boarders is sixty. The Woodstock School is a preparatory school for girls. In addition there is Mr. Birch's School and the Convent School (at Waverley) established in 1845. Amongst the public institutions mention may be made of the carrying agencies who have representatives at Saháranpur and Rájpur, who take charge of the travellers and their baggage and provide for their transit. The projected railway by Hardwár will improve the communication and perhaps render the Dehra railway unnecessary. The headquarters of the General Commanding the Meerut Division, of the Commissioner of the Meerut Division, of the Great Trigonometrical Survey, of the Superintendent of Dehra Dún, and of the Small Cause Court Judge of Dehra are all at Mussooree from the middle of April to the middle of October. The offices of the Superinten

(Magistrate) and his Assistant and of the Small Cause Court Judge and the Police Superintendent are in one building on the Mall.

There is a post-office, money-order and telegraph offices (Landaur) and a volunteer corps. There are three buildings dedicated to the service of the Church of England: Christ's Church, built in 1836, near the Library; All Saints' Church, on the hill opposite the Camel's Back; and a chapel of ease near the Library, chiefly intended for the Mussooree School. The Union Church, at which the minister is appointed by the congregation, belongs to trustees. There is also a flourishing Masonic Lodge. The English shops are numerous and the bazárs, too, are filled with native shops, at which everything almost can be purchased.

Beer for the use of the troops is the only industry in Mussooree: Mackinnon's or the old Brewery lies to the west of the station beyond the Library, and the Crown Brewery is situate on the road to Rájpur, above the village of Bhatta. There is a considerable import[1] of necessaries for the use of visitors and a small export trade to the Tihri villages. The Dún gives Mussooree a very small part of its supplies. Animals for slaughter are brought from the Saháranpur and other districts beyond the Siwáliks, sheep from Tihri, and poultry from the Panjáb. Mussooree, like Naini Tál, is a dreary place in the winter. The few whom duty or necessity oblige to remain must feel relieved when summer comes again and brings the visitors without whom it has hardly existence.

Municipality.

The Municipality derives its income from a house-tax, site-tax, tolls, and miscellaneous receipts. In 1882-83 the total revenue from all sources was Rs. 34,008. The house-tax was assessed on 380 out of a total of 470 houses, and yielded as follows in previous years:—

	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.
Houses assessed	336	345	358	370	380
Amount	Rs. 14,477	Rs. 15,141	Rs. 14,856	Rs. 16,215	Rs. 17,324

The farm of tolls at Rájpur at the foot of the hill yielded Rs. 8,533 in 1882-83, and Rs. 8,850 in 1883-84, one-tenth of

[1] The promoters of the Dehra Dún Railway state that in 1877-78 413,536 maunds of goods passed through the Mohand Pass, and 200,000 maunds through other registration posts besides articles entered by value. The principal items were *piece-goods, grain, oil, salt, sugar, tobacco,* leather and beer (Rs. 2,24,024 *in value*), *fruits, nuts, forest produce,* tea (about 8,000 maunds), timber, fire-wood, lime, and charcoal.

which is handed over to the Landaur Cantonment Committee as their share of the proceeds. The Municipal Hall, originally purchased for Rs. 33,000, has had Rs. 15,000 expended on its improvement, and to this must be added over Rs. 20,000 for interest on the unpaid principal, making a total of Rs. 68,000, whilst the receipts have been for some years as follows:—1876-77, Rs. 1,254; 1877-78, Rs. 1,263; 1878-79, Rs. 1,579; 1879-80, Rs. 1,294; 1880-81, Rs. 1,082; 1881-82, Rs. 2,431; and 1882-83, Rs. 2,508. The increase in the income is clearly due to the improvements in the arrangements. The site-tax brought in a revenue of Rs. 2,645, and the remainder of the income falls under fines, pounds, refunds, and miscellaneous.

The expenditure during the year 1882-83 amounted to Rs. 34,396, the principal item was Public Works, of which original works, including the Khattapâni water-works, the Municipal Hall improvements, and new roads absorbed Rs. 6,391; repairs took Rs. 8,570, and establishment Rs. 2,579. Conservancy cost Rs. 6,709, and debt to the amount of Rs. 4,600 was paid off and miscellaneous charges including ground-rent due to the Tihri Rája and other landholders (Rs. 1,120) amounted to Rs. 1,695. The Municipality is constituted under Act XV. of 1873, and is managed by a committee of ten members, of whom seven are elected. The population within municipal limits in 1882-83 numbered 7,662 souls. The general result shows a careful supervision of the resources placed at the disposal of the committee, and a progressive improvement which few others can boast of. At the same time it must be said that too little is expended on sanitation and the removal of refuse, very much less proportionately than in Naini Tál. The net annual income for a decade has been as follows:—

1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.
Rs. 5,170	Rs. 10,876	Rs. 11,085	Rs. 17,971	Rs. 21,922	Rs. 18,869	Rs. 22,896	Rs. 21,395	Rs. 23,595	Rs. 29,363

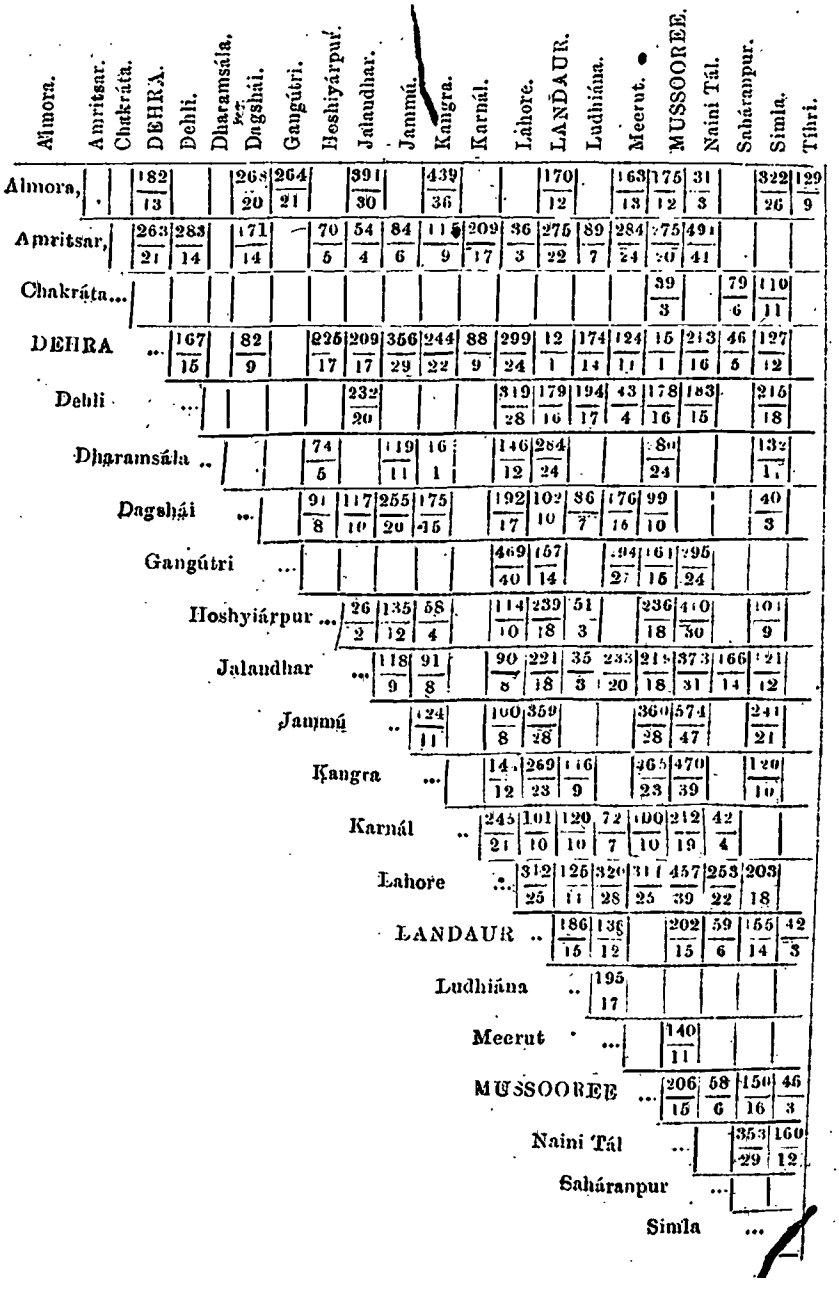
Views.

Mr. Williams in his memoir describes the scenery of Mussooree as "lacking in alpine boldness, though it is difficult to imagine a more lovely panorama than that presented by the Dún valley when viewed from the

heights above on a clear day or immediately after a storm." Another writes :—"The views are very beautiful, comprising on the north the Himálaya clad in perennial snow ; on the south the rich and varied expanse of the Dún bounded by the Siwáliks ; beyond which the prospect extends over the plains without any other limit than that of the power of vision, or that caused by the imperfect transparency of the atmosphere." The Snowy Range is seldom visible during the rainy season, when the view on all sides is usually obscured to within a few hundred yards by the vast clouds of mist that creep up from the valleys. When, however, these clear, as they do occasionally, the views equal, if they do not exceed in grandeur, those obtained at any other season of the year. To the west, the park is distant about four miles from the Library by Everest's road. It is more than a mile long, and a third of a mile wide, with fine woodland scenery, and is a favourite resort for pic-nics. The top of the Camel's Back is reached by a foot-path from the northern side of the hill, and affords splendid views of the Snowy Range and of the plains on favourable occasions. The Kimptí (Kimpati) Falls, five miles down on the Simla road, is reached either by a path from the Happy Valley along the ridge or by the road, and is worth seeing during or immediately after the rains. There are small cascades near the Bhatta and Kiyárkuli villages, and one known as the 'Mossy Falls' near Barlowganj. The Murray Falls are above Sahasradhára (*q. v.*) on the stream which has its rise below the Landaur Hill.

Mussooree became a sanitarium in 1826, the year before Landaur became a convalescent depôt for troops. In 1880 it became the residence of the Afghan détenu Yákub Khan, ex-Amír of Afghánistan, for whose use the Bellevue estates was purchased as a summer residence, and a house in Dehra during the winter. His uncle, Muhammed Sharif Khán, has also been a pensioned political refugee for many years, and lives in Dehra. But perhaps the most noteworthy fact in the history of Mussooree is, that during the year 1884, it was the summer residence of their Royal Highnesses, the Duke and Duchess of Connaught. The general history of Dehra Dún and the country around will be found in Mr. William's Memoir published in 1874. The map given here is from the records of the Survey of India, and the view is taken from the Landaur end.

Polymetrical Table showing mileage (upper figure), marches (lower figure).



Nádalsyun, a patti of parganah Bárahsyún in British Garhwál, is bounded on the north by patti Katholsyún of parganah Dewalgarh; on the south by Paidúlsyún; on the west by Gangawársyún, and on the east by Katholsyún and Ghurdursyún. This patti is occupied by the upper valley of the Khanda stream; the cultivation is rich and extensive, and the people are well off with markets at Páori, Srínagar and Kotdwára. The census statistics of 1841 give 1,440 souls; and of 1858, 1,999 souls. The tahsíldár collects the land-revenue of this patti and Gangawársyún also; both, in 1864, aggregated Rs. 2,168 for land-revenue and Rs. 120 for *gúnth*, with a population of 4,563 souls. The Gadoli tea-garden is situated to the south of the patti at an elevation of 5,052 feet above the level of the sea. The road by Jwálpa and the road by Chhipalghát unite near the tea-factory at the Búba-khál, and Páori itself is connected by first-class hill-roads with all the other parganahs of the districts.

Nágpur, a parganah of Garhwál, has nine pattis or sub-divisions, each of which is separately noticed, *viz.* :—Bámsu, Káliphát, Malla and Talla, Maikhanda, Nágpur Malla, Bichhla and Talla, Urgam and Parkandi. It occupies the north-west of the district and contains the famous shrine of Kedárnáth. The assessments at each settlement may be shown as follows :—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	1864.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,289	3,980	4,324	5,281	6,016	6,176	6,392	6,372	12,943

The statistics of the current settlement show that there were then 373 estates, comprising 594 villages, containing a total assessable area of 9,934 acres, of which 6,383 acres were cultivated. The mill-rent amounted to Rs. 520 and the land-revenue to Rs. 12,943, of which Rs. 1,150 were alienated in *sadábart* and Rs. 2,518 in *gúnth* and *muafi*. The incidence of the land-revenue on the total assessable area was Re. 0-13-3 per acre, and on the cultivation was Re. 0-15-2 per acre. The population in 1841 numbered 18,516 souls, of whom 8,285 were females; in 1853 there were 30,340 (14,990 females); in 1858, 28,337 (13,693 females); in 1872, 31,058 (15,306 females); and in 1881, 20,993 males and 21,307 females.

The parganah is rich in mineral deposits, and possesses some of the most magnificent scenery in the hills. We concur with Mr. Batten when he writes

that Nágpur will never be forgotten by those who have pursued the torrents of the Mandákini to their source, who have wandered amongst the great forests of the Tungnáth range, or who have spent a day on the banks of the Diuri Tál. All through the upper pattis there are bits of scenery unsurpassed for grandeur and beauty in the hills, and most of which is easily accessible to the ordinary traveller. The concourse of pilgrims from May to October enable the landholders to sell their surplus produce. They also breed large numbers of sheep and goats for the Bhotiya traders of Mána and Níti. The Nágpuris all dress in woollen cloths even where their residence is situate in temperate or warm valleys. As they do not change their clothes with the seasons, are dirty in their habits, and allow their habitations to be entirely surrounded in the rainy season by jungles of nettles, wild hemp, and similar rank vegetation, they are subject to much illness; and the *mahámari* or plague occasionally commits some havoc in Nágpur. In regard to temperature, the climate of some parts of Nágpur is quite European, and the scenery of the whole tract is highly beautiful, while the vicinity of the eternal snows is characterized by the grandest sublimity. A notice of the mines will be found under the head 'Mineralogy' in a previous volume.[1] Granite, gneiss and mica slate prevail in Nágpur; but clay slate and magnesian limestone are also very plentiful.

Nágpur Malla, a patti of parganah Nágpur in British Garhwál, is bounded on the west and south-west by the watershed between the Bálá-súti and Nighaul rivers separating it from the Bichhla patti; on the east and south-east by the Alaknanda river and on the north by Painkhanda Malla. From Chamoli on the road to Badrináth, a road branches off to the north-west by Gopeswar and the Tungnáth temple on Chandra Seli (12,071 feet) to Ukhimath and another runs up by the right bank of the Alaknanda to the north-east, re-crossing the Alaknanda at Hát on the Badrináth road. From the same place, a third runs down the right bank of the Alaknanda crossing the Bálásúti or Balkhil stream, and eventually joins the Kedárnáth road. There are iron mines at Bairagna, Jákhwáni, Hát Jaisal and Kyúser and copper mines at Sugur Polun, all in working order.

Nágpur Bichhla, a patti of parganah Nágpur in British Garhwál, is bounded on the east by Nágpur Malla and the Alaknanda river; on the south by the Alaknanda; on the east by pattis Nágpur Talla and Káliphát Talli, and on the north by patti Parkandi. It may roughly be said to contain the valleys of the Nighaul river, and the Sárigádh separated from each other by the Nágnáth (7,038 feet) range. Both flow into the Alaknanda on its right bank. The road from Pátli in the Malla patti crosses the Maidi (7,15[illegible])

[1] Gaz. X, 253.

range and, entering the Nighaul valley, crosses that river at Trisúla, whence it mounts the southern watershed and joins the Karnprayág and Kedárnáth road near Pokhri, where there is a school. This road is also joined near the same place by roads running from the west through parganah Dewalgarh, and crossing the Alaknanda at Chhatwapípal by a bridge. The Nighaul valley has numerous villages connected with each other by cross-tracks. The villages vary much in quality, but there is a prosperous trading community doing business with the pilgrims and the Bhotiyas. There are good forests of oak and pine. In 1864, the land-revenue amounted to Rs. 2,917, including *gúnth.* This patti is rich in mineral wealth; iron mines are worked at Agar Jákhtoli, Bargaunda, Bhúkandi, Banot, Guleti, Jogyára Diúr, Pokhta Banchara and Warli Tál; copper mines at Khurkhikhetipal, Nautha, Pokhri, Thála, Tálbonga, Molna, Khurni and Danda. Unworked mines of iron exist at Bairásu, Bartkota, Jarmwar and Kimna, and a copper mine at Sári. The patwári lives in Pokhri.

Nágpur Talla, a patti of parganah Nágpur in British Garhwál, is bounded on the north by patti Kálíphát Talli; on the west by the Mandákini river separating it from Tihri; on the south by the Alaknanda, and on the east by patti Nágpur Bichhla. The Kedárnáth road runs north along the left bank of the Mandákini from Rudrprayág. A cross-track runs along the right bank of the Alaknanda from Dharkot to a rope-bridge at Bhatwári, where there is a school, as also at Bhawáni. The Surgádha tributary of the Mandákini drains the northern half of the patti, that of the southern half falls into the Alaknanda. The population is dense, the land valuable and good, and the people prosperous. The assessment is now about equal to that of the Gorkháli time, since when the price of grain has trebled and the cultivation increased. The patwári usually resides in Satyári within the patti, which, in 1864, was assessed at Rs. 2,465 exclusive of Rs. 193 *gúnth.* Talla Nágpur is also rich in minerals. Iron mines are worked at Dandhár, Saunri Rájkhán, Ghát Bhaunra, Pangar and Patwára, and in former days at Dhúrna Ghatwara, Ghúrbordár, Munu and Patoli.

Naini, a village, halting-place and travellers' rest-house on the route between Almora and Pithoragarh, lies in patti Dárún of parganah Chaugarkha in Kumaon in north latitute 29°-39′-12″ and

east longitude 79°-58′-8″ at an elevation of 5,159 feet above the level of the sea; distant 29 miles from Pithoragarh; 26 miles from Almora; 11¼ miles from Gangoli Hát and 11 miles from Panuwa-naula. The bungalow has neither table-attendant nor requisites, but supplies can be obtained from the baniya resident here.

Ascending gradually from the Panuwa-naula pine-woods on the margin of which the bungalow is placed, the road reaches the crest of the Jagesar ridge at Kutiladanda (7,631 feet) which it follows for the rest of the distance except that some of the highest points of the ridge are cut off. The road rises to not much less than 7,200 feet passing through pine forest scenery, the Tankara of the *Kedára-khanda* (Gaz. XI., 302). About half way to Naini we go under the culminating point of the range (7,696 feet) and the view from it, and indeed from all parts of this ridge are of high magnificence. The road for the most part passes along the southern face of the ridge. At its foot on this side flows the Jagesar or Alaknandi river in a deep gorge joining the Sarju a few miles down. Near the head of this gorge is the temple of Jageśar, the most important in Kumaon, and the village of the same name (5,970 feet). Near the temple are two immense *deodárs*, standing in the outer courts, one measuring 21′-9″, and the other 22′-10″ in girth above the swell of the roots; they are probably between 180 to 200 feet in height. These trees have evidently been planted here. The custom of planting *deodárs* near temples is a common one in Kumaon, and these form the nucleus of a grove of some extent, the gradual diminution of the size of the individuals in which, as they become more distant from the parent pair, sufficiently attests the spread of the whole from them. The change of form so frequent amongst coniferous trees from the elegant bright-leaved pyramidal sapling to the dark massive tree with its flat top and heavy tabular branches, is here strikingly exhibited. In the former state alone the *deodár* is now known in Europe, but it is quite certain that in its more mature age it will assume the latter character, which is quite that of the cedar of Lebanon. There are also to be seen at Jagesar a number of yew trees which are perhaps of artificial planting also, as they are not usually found much below 8,000 feet. Close to the temple occurs *Dielytra scandens*, a somewhat rare plant, and balsams of various hues abound in the same sheltered locality. The rock is mainly mica schist and gneiss. The valley in which the temple is built is so narrow that the sun can hardly look into it in winter, and early in that season before any snow has fallen the whole place may be seen strangely frozen up, the slated roofs and paved courts covered with sheets of ice or fringed with huge icicles originating altogether in deposits of hoar-frost. The intense cold felt at the bottom of all narrow and deep gorges in these hills, such curious deposits of hoar-frost as these and the dense fogs habitually formed in the warmer valleys during the winter may be readily explained as depending upon the cold air which from its increased density flows down from the slopes of the mountains as its temperature is lowered by the radiation which goes on during the still nights. It is also to be noticed that in this and like valleys goitre prevails to a great extent. The great temple in the valley is not to be confounded with the small one of Buddh-Jágeswar on the road on the

FOR THE NORTH-WESTERN PROVINCES GAZETTEER.

From a Photograph by [illegible] J. Waterhouse.

[illegible] Survey of India Offices, Calcutta, January 1886.

NAINI TAL.

ridge.[1] The Chand Rájas used to be burned at Jágeswar, and their Ránís became *satis* here. On the occasion of the cremation of a Rája, a stone from the pyre used always to be sent to Pitrola near Champáwat, and deposited there at the old pyre-place of their family with great ceremony and sacrifices of male kids; a practice still observed by the Almora and Káshipur families. Rájis reside near Jágeswar.

Naini Tál, the hill sanitarium of the Kumaon Division, is situated in patti Pahár Chhakháta of parganah Chhakháta of the Kumaon district in north latitude 29°-22′-49″ and east longitude 79°-30′-19″ (south south-east corner of the lake); distant 16 miles from the foot of the hills at Káládhúngi, 10 miles from Ránibág, 32 miles from Almora by the Rámgár road, 30 miles from Almora by the Khairna road, and 23 miles from Ránikhet. The population on the 17th September, 1880, numbered 10,054 souls (2,957 females), but varies every month with the number of visitors. In February, 1881, it was 6,576 (1,970 females) exclusive of cantonments. The station is situate in a valley running from west to east, and is bounded on the north by the peak of Chína, 8,568 feet high, continued by the Alma peak and the Sher-ke-dánda to the eastern extremity where the ridge descends almost to the level of the lake. On the west the rugged hill of Deopátha rises to the height of 7,989 feet, and on the south Ayárpátha attains an elevation of 7,461 feet, diminishing gradually towards the east. The eastern boundary is the pass through which the surplus waters of the lake find an exit, forming the principal source of the Baliya river which in turn is a principal feeder of the Gaula. The western end of the valley consists of a series of gentle undulations formed by the debris of the surrounding hills while the eastern end is filled by the lake of Naini which gives its name to the station. The surface of the lake has an elevation[2] of 6,350 feet above the level of the sea. In 1871, Dr. Amesbury measured and sounded the lake with the following results:—The length from east to west in the centre is 4,702½ feet or about 1,567 yards; the width at the Smuggler's rock is 792 feet, and at the broadest part opposite Omnibus cottage is 1,518 feet. The circumference by the road is 11,880 feet or a little over two miles. The superficial area is 120½ acres. The greatest depth is 93 feet, and the least depth on a ridge running through the centre of the lake is 20 feet.

The lake.

[1] See further *Gaz.* XI., 778. [2] Kumaon and Garhwál Survey.

The colour of the water is generally a bluish green, but after an earthquake, such as occurred in 1871, the colour is more opaque, and turns to a dirty reddish brown from the agitation of the bed of the lake, and the presence of infusoria.[1] There is but one important feeder which collects the drainage and spring waters of the western end of the valley and with it some of the refuse from the whole hill-sides. In the rains this stream must to a certain extent pollute the waters near its entrance into the lake, but as a rule the water of the lake is good and well adapted for drinking purposes as its analysis shows.

The lake is very slowly but surely filling up from the immense quantity of debris swept into it during the rains, though, as it has received that from the landslip without any perceptible diminution of its area or depth, we may well hope that many generations shall pass away before the chief ornament of Naini becomes a thing of the past. Occasionally fish weighing 28 to 35 pounds are caught, but the most common is a small scaleless species which, however, is fit for the table. In the lake itself there is a sulphur spring nearly opposite the Smuggler's rock in 63 feet of water and another outside it near the Talla Tál bazár, which has been found a medicinal agent of considerable value in cases of debility.

Near the brink, the surface of the lake is covered with a tangled mass of *Potamegeton mucronatum*, *Myriophyllum indicum*, *Chara verticillata*, *Polygonum scabrinervium* and the pretty English *Polygonum amphibium*, which, according to Madden, "here and here only in India, raises its pink spikes above the water."

Ayárpátha.

Ayárpátha, so called from the *ayár* (*Andromeda ovalifolia*) a species poisonous for cattle and goats, is covered with the green oak (*Quercus dilatata*) and this as well as the adjoining mass known as Háni Báni is almost exclusively formed of the transition limestone of Mussooree exhibiting everywhere vast rents, fissures, crags and boulders of all sizes and shapes and falling under Ayárpátha so abruptly to

[1] Specimens of these infusoria were transmitted to England in 1870, and the species found in the lake at Naini Tál has been named *Ceratium kumaonense* by Mr. H. J. Carter (An. Mag., N. H., 4th Ser., VII., 229). It is a species of horned *Peridinea* allied to that found in the Baltic sea, Red sea, Indian ocean, the Swiss lakes, the fresh-water ponds of Bombay and those of Calcutta, and it is to an assemblage of these minute animals that the rusty brown colour of the lake at certain seasons is due. They are also found in the other lakes.

the edge of the lake that until 1847 there was only a very indifferent pathway in that direction. To the south-east of Ayárpátha the Gaiwála estate or Sherwood, now occupied by the Diocesan boys school, comprises a series of swelling lawns thickly wooded and terminated abruptly by magnificent precipices from 1,500 to 2,000 feet high, from the base of which issues the Nihál river flowing by Káládhúngi through the Bhábar to the Tarái. To the east, the cliffs are of clay-slate in the centre of limestone, and to the north-west again of clay-slate distinctly stratified and dipping from the plains. Here, as in the Baliya glen, the rocks appear to rest upon beds of blue aluminous shale and white gypsum, which must be of immense thickness, as they are found nearly to the foot of the mountains where the gypsum assumes the texture of alabaster and has been found useful in manufacturing plaster of Paris. The woods along Gaiwála comprise oak, ash, maple, Siberian crab, cypress and other northern forms, while the sward abounds in the *Primula dentieulata*, *Parnassia nubicola*, with pæony; at no great distance and immediately below commences a tropical vegetation connecting it with the plains. The view from Ayárpátha shows the Bhábar and Tarái arranged like a map at one's feet and on fine days takes in Bareilly to the south-east and Morádabad to the south-west.

Deopátha.

Deopátha on the east rises at a very sharp angle from the Abelia pass, whence the road from Káládhúngi enters the valley at an elevation of 6,800 feet above the level of the sea to 7,989 feet. On the north-east it is separated from Chína by a pass known as the Chína-ke-khán or khál, 7,438 feet high, which communicates with the villages lying along the headwaters of the Bhakra or Baula river. The sides of this peak and its base are strewn with immense boulders of limestone in natural confusion which are clothed with ferns and other epilithal vegetation amidst close coppices of the abelia.

China.

China, the monarch of the Gágar range, raises his furrowed sides on the north almost precipitously at a horizontal distance of about one mile and a quarter from the lake. On the north, the crest is prolonged in a ridge known as the Buráns-ke-dánda or 'Rhododendron ridge'

from the number of those trees growing there. The southern face is covered with a forest of noble cypresses (*Cupressus torulosa*) which here alone on the lower ranges appears to be indigenous. The crest is formed of limestone on a basis of clay-slate which appears to dip to the west or north-west. Limestone also appears along the south-western slopes.. According to Madden the summit "is clothed with a brushwood of *Indigofera, Spiræa, Elsholtzia* and *Salix; Androsace lanuginosa* covers the rocks; *Anemone discolor* grows in the shady places and at the Surveyor's cairn *Stellaria semivestita* and *Hemiphragma heterophyllum* appear.

The holly (*Ilex dipyrena*) reaches a great size; one measured near the ground was between 16 and 17 feet in girth: but the characteristic tree of Chína is the *Quercus semecarpifolia*, which fringes the crest and covers the whole south-west face. Badhán Dhúra and Sát-chúliya, points of nearly the same altitude, and at no great distance, on each side of Chína, have not a trace of it; and on the former Madden could only find a few specimens of *Colquhounia vestita*, a very common shrub at Naini Tál and towards Badrináth. The *Limonia laureola* too occurs only in this locality on the Gágar range, and though the cypress is said to exist in Dhyánirau, it appears to be very local, limited to a grove or two while they occur on the face of Chína towards the lake in quantities and on the Gaiwála cliffs as low down as 5,100 feet. The vegetation of Chína and Naini Tál thus presents some difficult problems, which the natives resolve at once by the assertion that the oak, cypress, *Limonia, Colquhounia*, &c., were imported from the snowy range and planted here by Naini Devi herself: and one might really suspect that some of the devotees who did penance on Chína in days of yore, actually introduced them from the holy *tírthas* among the snows, were it at all probable that they would have condescended to such humble plants as the *Hemiphragma* and *Anemone*. Moreover, on this principle it might be surmised that "Pilgrim" put the *Polygonum amphibium* into the lake to make it more English."

View from Chína.

The view from Chína embraces Rohilkhand, Kumaon, Garhwál and the snowy range from the sources of the Jumna to those of the Káli. The great Himáchal must be about 65 miles distant in a straight line, and its

details are therefore less distinct than from Binsár and Almora, whence the superior limit of forest is perfectly defined—much more so than the snow line—and above which the eye reposes with a never-to-be-satiated curiosity on the enormous shelving masses of rock and snow which appear as if they would squeeze mother earth to a mummy. Here we have the Gangotri group running apparently north, with sloping and apparently stratified planes to the east; then comes the great Kedárnáth mass, said to be the original Sumeru, whence Siva regards with jealous rivalry his neighbour Vishnu, who dwells over the way in the still grander mass of Badrináth, or rather on the Nálikánta peak above the temple. Next comes Trisúl about 20 miles more to the south-east and behind this again Nanda-devi with its pyramidal grey peak rising to 25,660 feet. Next comes Nandakot with the tent-shaped peak which is supposed to form the pillow of the *katiya* or cot on which Síta reclines. Further east are the Panch-chúla or five cooking places used by the Pándavas and then come the peaks of Api and Namjang in Nepál and its other unnamed mountains. Though perhaps not so clear or distinct a view as is obtained from the hills nearer the snowy range, it is undoubtedly the most comprehensive and impressive in the whole outer range (*Madden*).

Sher-ke-dánda.

The small ridge on which Fairlight (Tonnochy's) is built, separates China from the Alma or Ulma peak, up and around which a road has been made which commands a fine view of the Khairna valley, the China water-fall, Ránikhet and the hills beyond. The Alma-khán separates this from the snow-seat and Government house and the Khairna pass from Sher-ke-dánda or Tiger's ridge which is thickly covered with forest and abounds with beautiful shady walks. The east and south-east extremities of this hill abruptly end in precipices formed of clay-slate which caused considerable difficulty in making the foot road to Almora by Rámgár and the cart-road to Ránibág. To the north-east, the Tiger's ridge is connected with Liriya-kánta or Luriya-kánta, so called according to native accounts in memory of some forgotten goddess. It attains an elevation of 8,144 feet (8,023 feet, R. S.); its summit is quartz, bold and craggy towards the north and undulating to the south-east where it is clothed with forests of oak and pine. Mr. J. H. Batten discovered greenstone near the north end of the lake running north-east to the

summit of Sher-ke-dánda and again to the south between Ayárpátha and Gaiwála passing through limestone and beds of hornstone. The trappean rocks are said to reappear between Khúrpa Tál and Kálapathar where they derange and alter the other rocks as usual.

The valleys around Naini Tál afford occupation to the naturalist, the painter and the sportsman. A list of the plants to be found is given in the first volume as well as one of the *fauna*. Game is abundant close by and scenery unrivalled in the lower hills is within easy distance. The lakes of Malwa, Bhím, Naukuchiya and the seven lakes are only one march to the north-east, and will well repay a visit, while on the west the valley of the Kosi and the sequestered glades along the Rámganga and the Kota and Pátli Dúns afford scenes which a Salvator Rosa would delight to paint. The hills on all sides are thickly studded with the bungalows which are occupied by visitors from the plains from April to October. In the winter there are few European residents and the greater number of the native traders also leave the bazár for their homes. The southern face of Chína and the space around the northern margin of the lake itself appear to be the favourite sites for residences and are fully taken up. Here also are the schools, church, and travellers' bungalow. Between the church and Háni Báni or 'the echo' rock lies Sukha Tál, a depression filled with water during the rains and used also as a quarry for stone and a shooting range for the volunteers. Close to this under Ardwell is the circular hollow covered with grass and flowers known as the Malla Pokhar or 'upper pool' perhaps originally filled with water but now dry at all times. The upper bazár and the assembly rooms are situated at the western end of the lake which also boasts of a fair cricket, tennis, polo, and race ground. At the eastern end is the bazár known as Talla Tál or 'lower lake,' and beyond this at a distance of about a mile the barracks of Kálakhán forming the military convalescent depôt of the Rohilkhand Division. There is no trade or manufacture unconnected with the supply of the wants of the summer visitors. The court of the Assistant Commissioner of Kumaon sits here, and there are besides a police-station, post-office, telegraph-office, dispensary, European shops and several hotels and boarding-houses.

Municipality.

The Naini Tál municipality is constituted under Act XV of 1873, and is managed by a committee of six members. Taking the latest returns, those for 1882-83, the receipts amounted to Rs. 56,602, of which, however, Rs. 9,729 were abnormal, being due to refunds and donations. The actual receipts were therefore Rs. 46,873. The principal sources of income are (1) the octroi on animals brought in for slaughter which yielded Rs. 2,761 ; (2) tax on houses (Rs. 8,335 in the station and Rs. 2,326 in the bazár) Rs. 10,661 ; (3) tolls on vehicles, Rs. 7,453; (4) special taxes such as conservancy, stalls for animals and on sites, which yielded Rs. 18,644 ; (5) rents, Rs. 1,939; (6) fines and miscellaneous, Rs. 5,425, to which add the abnormal receipts. The expenditure amounted to Rs. 57,531 distributed as follows:—Collection Rs. 1,055; head-office, Rs. 1,487; public works, Rs. 25,425; police, Rs. 2,513; education, Rs. 300 · charitable grants, Rs. 348, conservancy, Rs. 11,025 ; repayment of loans, Rs. 11,527; and other items, Rs. 3,818. The large sum under the head repayment of debt is in part liquidation of the loan received from Government (a lakh and a half of rupees) for protective works after the landslip of 1880. These works have been tried by heavy rains since and have thoroughly stood the test, and with the establishment retained to see that all drains are clear, have made the station safer than it was before, and far more pleasant for those who have to walk or ride during the rains.

The receipts of the Naini Tál cantonment fund amounted to Rs. 4,199 in 1882-83 chiefly made up of a grant-in-aid of Rs. 2,189 and Rs. 1,674, dues on grass and fuel. The expenditure almost equalled the income and was devoted to the usual purposes, conservancy, lock-hospital and police.

Schools, &c.

The American Episcopal Methodist Mission established a branch of the Society here in 1858, which supports a vernacular school for boys having now a large attendance of pupils. Besides this there are eleven other schools supported by the Society in the hills and Bhábar with an average daily attendance of 3 to 400 and a girls' school with 20 pupils. In 1871, a dispensary in connection with the same Society was opened at Naini Tál when, in three months, 1,800 out-door and 30 in-door patients received treatment. Similar institutions were established at Dwárahát and Bhím Tál in 1872. In 1869 a medical

school was formed at Naini Tál where eight young men and four young women received instruction in the rudiments of their profession.

Diocesan schools.

The Naini Tál Diocesan schools owe their origin to a project framed by Dr. Condon, Mr. H. S. Reid and others in 1869 for founding a school for the children of residents and others of small means. It was felt that, though there were several schools in other Hill stations suitable for the children of comparatively rich parents, there was no school, elsewhere established, adapted to the means of the comparatively poor. They determined therefore upon commencing such a school. Their object was to secure for parents of small income, a really good education for their children, in a good hill climate, for a very moderate sum. The public readily met their appeal for help, and in July, 1869, a mixed school was commenced under the charge of Miss Bradbury. It was continued during the year 1870, and with such success that the committee decided upon enlarging their operations and setting up two schools, one for boys and the other for girls to be conducted on a liberal scale and to supply a good and sound education. Every exertion was made to render them efficient, and excellent teachers were engaged. These schools commenced work on the 1st of February, 1871, and have met with large success. The average number of pupils during the first year was 70, and, in the case of the boys' school, the committee were obliged to reject applications for want of space. In 1872 the number of pupils increased to 100, but still many applications were refused in consequence of the want of accommodation. The committee then appealed to the general public for aid in erecting proper school buildings and met with a generous response. The school for girls was built from a tasteful design by the Rev. W. N. Tribe and in 1873 the Sherwood estate with its house and magnificent grounds was purchased by the committee for the boys' school and is perhaps the finest site and establishment of its kind in India. The reports of the examiners show that both in the internal economy and in the character of the instruction imparted, the Diocesan schools thoroughly fulfil the designs of their founders.

Roads.

Naini Tál is entered from Moradabad by the postal road passing through Káládhúngi and Mungauli, at both of which places there are traveller's rest-houses. From Káládhúngi there is a steady rise for eight miles to

Mungauli and thence to Siriya Tál, better known as the washerman's ghát, the road is tolerably level. From this a steady rise of a few miles leads to the Abelia pass 6,800 feet high. On the east there is a railway from Bareilly to Ráníbág and a carriage-road thence to Naini Tál. There is also a good cart-road and a bridle road following the valley of the Baliya river to the brewery, whence there is a steep bridle-path of about two miles to the Talla Tál bazár (6,400 feet). On the north two roads communicate with Almora; one by Khairna is level for about 20 miles and the other by Rámgár crosses three separate valleys and ranges before joining the former. The various routes into the interior will be found elsewhere. Supplies of all kinds in any quantity can readily be obtained at Naini Tál at all times.

Mr. Ball in his paper on the origin of the Kumaon lakes notices two theories (*a*) that they are due to glacial action; (*b*) that they are hollows of denudation for the most part enclosed by landslips. He notices that the China portion of the ridge at the head of the valley is deeply scarped above with an undercliff much concealed by talus. It consists chiefly of shales with which there are some quartzites, and towards the crest there are limestones which so far as is clearly seen may partake either of the nature of beds or veins. Passing hence round by north to south-east the ridge is mainly formed of shales and argillaceous schists which are much contorted and broken; but the prevailing dip is probably to south-west, the beds striking with the direction of the ridge. An obscurely seen trap-dyke seems to observe the same course. To these two facts the dip of the beds and the existence of a rigid trap-axis the present form of the slope is, Mr. Ball believes, under the influence of subaërial denudation to be attributed and not to the friction of a glacier. The range on the south-west of the valley marked by the Ayárpátha and Deopátha peaks is formed of massive limestone, the bedding of which is generally very obscure. There is also some trap, the combined rocks giving a rigid and very steep outline to the range which contrasts most strikingly with that on the north.

Geology.

Mr. Ball goes on to write:—"All the rocks of this basin, whether shales of limestones, are singularly unsuited to the retention of the minor glacial marks; and if glaciation did take place, it may be from this cause that no such traces are now found. From an inspection of the large scale map, it will be at once apparent that the head of the valley has very much the form of a 'cirque,' as defined by

Mr. Helland,[1] who argues with considerable force that the cirques of Norway and Greenland are due to glaciers. Mr. Bonney, on the other hand, describes Alpine cirques, which he believes to be formed by streamlets pouring down the sides. It has often been remarked how some forms of our Indian alluvia under the operation of heavy rainfalls exhibit in miniature many of the forms of denudation and erosion. Among these forms, cirques and cirque valleys are not unfrequently met with. Invariably, they are due not to denuding action from above, but to subterranean springs or streams. To a similar cause may, I think, be attributed cirque-like valleys in rocks formed of loose shales, and, to some extent, even those where the rocks are limestones. The section of the bed of the lake indicates a state of things very different from what might have perhaps been anticipated, but, however the lake has been formed, explanations to account for the peculiarity about to be described can be suggested."

"The soundings from which the section has been plotted have been taken from the Revenue Survey map on the scale of ten inches to a mile. In some cases the exact character of the bottom is given, but not in all. A knowledge of this character is, no doubt, a very great desideratum for the discussion of this question. It would be especially desirable to know the nature of the bottom all across the lake transversely to this line at the point where the shallowest sounding occurs. As represented in the section, the lake consists of two basins, with the maximum depth nearly centrically situated in each case. They are separated by what appear to be a barrier. If it really be so, then it would lend considerable support to the glacial hypothesis. Indeed, if consisting of rock *in situ*, it would fairly prove the existence of a true rock basin, thus furnishing a strong argument in favor of the glacial origin. Supposing it to be so, the twin basins might be readily explained by the hypothesis that they had been successively excavated by the retreating end of a glacier. Unfortunately the case is not susceptible of so simple an explanation, as the shallow sounding may be caused not by a barrier, but by a mere hummock, which, if (as is possible, so far as is certainly known at present) occurring isolated by deep channels from the margins of the lake, would be, on the other hand, a strong argument against the glacial origin, as such an obstruction must assuredly have been swept away by a glacier capable of scooping out the deeper hollows. Still another view of the nature of the barrier or hummock, be it which it may, is possible. It may be that it is not really formed of rock *in situ*, but is merely the remnant of an ancient landslip."

"In the present state of our knowledge, therefore, no certain conclusion can be drawn from it. But the peculiar character of the basin still remains a subject for some speculation, the more particularly so when it is remembered that the operations of the present day must tend steadily to obliterate these features by the deposition of silt in the hollows. Passing from the lake itself to examine the nature of the barrier at the outfall, we find that it is formed of a confused mass of debris, in which some very large rock masses, some of them ten feet in diameter, occur. Following down the bed of the stream, rock *in situ* is not met with till near the waterfall, or at a level which must be considerably below that of the bottom of the lake where deepest. Mr. Blanford, though he does not expressly

[1] "Cirques are large spaces excavated from the solid rock, bounded on three sides by an almost semicylindrical steep mountain wall, and with a tolerably flat floor."—Quar. Jour., Geol. Soc., Vol. XXXIII, p. 161.

state his belief that the large blocks of stone are erratics, suggests that they may be derived from the limestone at the ridge at the head of the valley (Deopátha). He states that his "impression was that the lake was closed by a moraine." The source of these blocks I believe to be much closer at hand. In great part they have, I think, simply tumbled down from the Ayárpátha ridge and its eastern prolongation, where not only is similar rock to be seen *in situ*, but similar detached blocks are found on the slopes; one remarkably fine example being seen in the compound of Welham house. Others, on the other hand, may have fallen from the ridge to the north of the depôt, where the already described lenticular masses of limestone occur. The remainder may, I think, have simply been eroded from their envelopment of shales at, or very close to, the positions where they are now found. Though it is convenient to speak here of these blocks collectively as limestones, they vary much in character, and some are highly indurated, but only slightly calcareous, mud stones. From these varying characters it may be possible, hereafter, to trace their origin individually with considerable accuracy. As to the other characters of the debris at the outfall, I in vain searched in it for evidence of a glacial origin, and am unable to point to any feature which is inconsistent with the idea of its having been formed by a landslip."

After examining the other lakes (*q.v.*) Mr. Ball sums up the results thus:—

"Reviewing the whole of the facts which are enumerated above in reference to each of the lakes, and considering the limited zone in which they occur—the probability that they are all the result of one general series of operations impresses itself as being an hypothesis of primary importance. If one of the lakes then exhibits indications which seem to connect it with one particular mode of origin, while others of the lakes do not show such or similar indications, it becomes all-important to submit the former to the severest scrutiny. In this way, I think, the appearances suggestive of a glacial origin, which are perhaps strongest in the case of Naini Tál, lose much of their force when we find that other lakes exist of generally similar character, but in which the special indications are wanting. In the single character of the outfall barriers all the lakes agree; opinions may differ as to the origin of these barriers, whether they are remnants of moraines, or have been formed by landslips, but it is almost certain[1] that not one of them consists in any degree of rock *in situ*, and we therefore have not the positive aid of a rock basin to determine a conclusion.

There is one point geologically which links the three larger lakes together, and that is the occurrence of trap-dykes in the vicinity of each. Now, I do not think it at all probable that the lakes are due to the original outburst of trap. Indeed, the above described fact in reference to Malwa Tal, where both the inflowing and outflowing streams cut through trap, renders such a view untenable. But it seems not improbable that, when the great upheaval and disturbance of the rocks of this area took place, the existence of comparatively rigid lines of trap may have been largely instrumental in determining the form which the surface assumed, and that on their flanks the soft shales, &c., may have been so much crushed and broken, as to yield more easily to the subsequent operations of denudation, thus affording an abundant supply of material for landslips, which ultimately

[1] Careful levelling can only decide this point.

served to close the valleys and form the lakes.[1] Or even supposing the outburst of trap to have accompanied the upheaval and disturbance, its effect in determining the subsequently established lines of denudation could not fail to make itself felt. This explanation, in part suggested by Mr. Mellicott's observations in his well-known paper on the Alps and Himálayas,[2] seems to me more in accordance with the known facts regarding the whole series of lakes than any glacial theory can be."

Landslip of 1880.

The year 1880 will ever be memorable in the annals of Naini Tál for the great landslip which was attended with such melancholy loss of life.[3] The rain commenced to fall steadily and without cessation from Thursday the 14th September, 1880, until Sunday evening, the 19th. During Friday and Saturday 33 inches of rain fell, of which 20 to 25 inches had fallen in the 40 hours preceding Saturday evening. The rain was accompanied by violent gusts of wind from the east; the roads were injured, the water-courses choked, and there was a general saturation of the soil in all places where the loose debris of rotten shale, of which the northern range is composed, allowed the water to penetrate. There was much clearing of new sites during the previous year and the builders did not always provide for the derangement of the natural drainage channels. In many places the water was allowed to sink into crevices in the hill and find new outlets for itself, and this it did with a vengeance. In 1866, a slip occurred to the west of the present one destroying the old Victoria hotel. In 1869 this was enlarged and the scored sides of the ridge below Alma bear witness to its extent. On the site where the slip of 1880 occurred was the Victoria hotel and its offices, and below it was the temple on the margin of the lake, and close to it Bell's shop, and further on the assembly rooms also on the margin of the lake. About 10 A. M. on Saturday morning the first slip occurred in a part of the hill-side immediately behind the Victoria hotel, carrying away a portion of the out-houses and of the western wing of the hotel and burying in the ruins an English child and its nurse and some native servants. Working parties were called for and Mr. Leonard Taylor, C.S., Mr. Morgan, Overseer, and a party of soldiers and officers from the depôt set to work

[1] It is possible that the basin of Naini Tal may be connected with some local faulting, the existence of which is implied by the sulphur spring at the outfall. That a fault occurs all along the centre of the valley is, however, scarcely probable, as, did one exist, it would show in the scarp of China, the beds forming which appear to be continuous across the head of the valley. [2] Quar. Jour., Geol. Soc., February, 1868. [3] From personal observation and Mr. Conybeare's narrative.

to dig out those that were buried. In the meantime, all the residents in the hotel removed to safer quarters except Colonel Taylor, R. E., who retired to a small detached room below the hotel generally used as a billiard room, and Major and Mrs. Morphy with Mrs. Turnbull, who came to offer their assistance, proceeded to the assembly rooms. All had made preparations to leave as nothing more could be done, and about twenty minutes past one I passed from the hotel to the bazár, and whilst passing with Mr. Wright, heard a noise and saw a large boulder falling from the cliff above towards the hotel. I thought nothing of it and went on. In another ten minutes the landslip took place.

The whole hill-side was one mass of semi-fluid matter and required little to set it in motion. The state of the hill has been described as in dry weather a mass of the consistence of oatmeal which when mixed with water spread out like porridge. The motive power was a shock of earthquake, a very common occurrence in these hills, and which was felt on that day by competent observers in the Bhábar below and in Naini Tál itself. This set the fluid mass in motion, and the result is thus told :—

"A rumbling noise, similar to that occasioned by the falling of large masses of earth, was heard by many in the station; and such as had an opportunity of looking towards the direction of the crash could plainly see vast clouds of dust rising from the situation above described. It was apparent that a large portion of the hill behind the hotel, from the upper mall, disunited, had descended with enormous velocity and violence, had completely buried the hotel, and had dashed together into an unrecognisable heap, the orderly room, the shop and the assembly rooms. The wave of earth and water, making a clean sweep of the extensive hotel premises, had apparently driven the shop on to the assembly rooms, carrying forward the massive building over 50 yards on to the public rooms, a portion of which were hurled into the lake and the remainder reduced to a heap of ruins. The catastrophe, as far as can be ascertained, was the work of a few seconds only; so that escape on the part of any who happened to be in the course of the avalanche was practically impossible."

Another account runs :—

"Through the dripping rain came the sound of crackling trees. Some oaks on the hill-side, about 400 feet above the Victoria, were observed falling forwards. A boulder or two descended, and a shout of "Run for your lives!" was heard ringing up from the hotel. It was followed by a noise which to those near suggested the rumbling crash of thunder, and to a witness not far distant the hoarse roar of cheering for some person rescued. By others on the ridge above and on the south-eastern edge of the lake this noise was not heard at all; but it meant that

the hill-side had fallen. In less than half a minute the last stone had splashed into the lake. Several great waves rolled down its surface, whilst a cloud of light brown dust concealed its north-western side and the site of the Victoria from view. As to what had happened in the interval no two witnesses are exactly agreed. For the close observation of details both the time and the mood were wanting.

But here are some extracts from the statements of selected eye-witnesses :—

"With one fell swoop and awful crash," writes the Rev. D. W. Thomas, "the Victoria hotel, Bell's shop, the assembly rooms, and a throng of human beings were almost instantly buried beneath the rocks and the lake. The hotel moved forward, foundation and all, at least a hundred feet before it collapsed ; and Bell's shop about the same distance. When the slip commenced there were a large number of natives and five or six (British) soldiers passing along the Mall below ; most of whom were buried beneath the shale and rocks." Mr. Thomas adds that the Victoria and the Hindu temple were carried directly into the lake. The only trace of the hotel main building is the fragment of a pillar ; a but this lies on the play-ground, as far distant from the lake as any part of the *débris*. Remains of the temple and its occupants have been dug from the southern end of the assembly rooms.

Mr. W. Gilbert says :—"I was startled by a thundering noise behind me, and on turning round saw that the Victoria Hotel had disappeared. An immense, dark, moving object was passing over its site, reaching the lake in a very, a very short time, carrying everything before it, and crushing up mighty trees like match-sticks. For about a second of time Bell's and the assembly rooms were overshadowed ; and then there was a tremendous crash, followed by a splash in the lake. The mass of mountain which had detached itself came down with such velocity that for the moment the impression on my mind was that a huge promontory from 30 to 40 feet high had leaped out from the hill-side into the lake, disappearing a few seconds after the awful splash. I am sure I could not have run over twenty paces on open ground and in the best form within the same time."

Rev. N. Cheney, who was standing about 20 yards from the course of the slip, was startled by hearing above a noise which seemed "to mingle the report of a muffled explosion with what sounded like a high-toned piercing cry. The trees shook and writhed ; the hill-side burst ; the whole mass fell in a headlong avalanche, and rushed down the slope towards the Victoria Hotel. The bursting of the hill was with an upward as well as an outward leap, as if some interior power had accumulated until it could no longer be confined. The hotel was not crushed from above, but was struck near its foundation : and fell back on, and was carried forward by, the advancing slide. Its roof appeared to turn upside down ; for the rafters were for an instant plainly visible in a vertical row. A cloud of dust obscured from view the destruction of Bell's shop. I was nevertheless able to discern that the central column of shale, in which the greatest velocity and power were exhibited, passed over the Mall at the entrance gate of the hotel, and thence in the shortest line plunged into the lake. It is my judgment that the time from the bursting of the hill to the descent into the lake was not more than eight seconds."

The dead and missing numbered 151, of whom 43 were Europeans and Eurasians, including Colonel Taylor, Major Morphy,

Captains Balderston, Goodridge and Haynes, Lieutenants Halkett, Sullivan, Carmichael and Robinson; L. Taylor, C.S.; Rev. A. Robinson, Doctor Hannah, Messrs. Noad, Bell, Knight, Moss, Tucker, Morgan (two), Sheils (four), Drew, Gray, five non-commissioned officers and nine privates, Mrs. Morphy, Mrs. Turnbull and two children and 108 natives. The escapes were many and narrow. Sir Henry Ramsay whilst directing operations at the east end of the lake was overtaken by the great wave caused by the *débris*, swept into the lake and though at one time waist-deep, succeeded in reaching safety on an ascent off the road; but a British soldier and several natives were swept away close beside him. A Mr. Walker was covered up to his shoulder by the outer fringe of the mud torrent, but escaped. A soldier and a native lad were swept into the lake and escaped by swimming. Mrs. Knight and Mrs. Gray were in the upper story of the building known as Bell's shop, and were carried with it and found amid the girders of the iron roof landed on a heap of the *débris* almost unhurt. Immediately after the landslip jets of water poured forth from reservoirs within the hill on the newly made face and for some time maintained a direction and volume which showed the great quantity and force of these factors in the landslip. I will pass over the Saturday night when no one knew whether there would be another slip as the rain never ceased and boulders continually came crashing down from the hills above. Great cracks opened up and became more easily traced: one from the Mayo hotel up to Saint Loo cottage, the wall of which was fissured sufficiently to admit of a person walking through and across Government house, an arch in which was cracked, and over the northern slope of the hill. Another line further west split in two a rock on the summit of the little ridge above Fairlight; a third line proceeded from the Club to the end of the China ridge by the road west of Fairlight. All these were caused by the earthquake, which was as destructive on the northern slopes of Alma and China as within the valley. Sir H. Ramsay ably aided by Mr. Willcocks, C.E., and Mr. Lawder, C.E., set to work and soon placed the roads and drainage on a better footing than before.[1]

[1] Rs. 60,000 were distributed by Sir H. Ramsay as chairman and myself as Secretary of the 'Relief Fund' amongst the families of those who perished in the landslip.

Climate.

From its vicinity to the plains Naini Tál enjoys the benefit of the breeze which usually springs up in the evening and in the hottest seasons is never oppressively warm. In the monsoons it receives more rain than Mussooree and nearly twice as much as Almora, which is only 30 miles off; the Gágar range intercepting the clouds before they reach the latter place. Although records of rainfall have been kept for many years, they do not appear to me to be trustworthy.

Water-supply.

The water-supply of Naini Tal is good except in one point, *viz.*, that the water is very hard and contains a considerable amount of soluble earthy salts, derived, no doubt, from the magnesian limestone of the hills. Such waters are not generally preferred, as it is believed they are likely to induce diarrhœa in those using them.

The result of Dr. Murray Thomson's analysis of the potable waters at Naini Tal, 1866-67, is as follows:—

Numbers.	Degrees of total hardness.	Degrees of permanent hardness.	Degrees of removable hardness.	Grains of oxygen required for oxidation of readily oxidisable organic matter of 1,000 grains of water.	Total solids in 70,000 grains of filtered water.	Volatile matters.	Mineral matters.	Earthy salts, silica, oxide of iron insoluble in water.	Lime calculated as carbonate.	Silica.	Soluble salts.
1	15·5	12·	3·5	·00034	21·8	1·6	20·2	13·5	8·6	Traces,	6·68
2	13·16	11·	2·16	·00064	25·92	1·08	24·84	12·24	6·48	Do.	8·08
3	13·	13·	...	·00064	28 12	1·16	26·96	13·32	7·32	Do.	9·64

The first specimen was taken from a small masonry tank near the centre of the convalescents' barracks, which receives a part of the overflow from the lake. The water before entering this cistern is passed through a large charcoal filter. The second was taken from the surface of the lake about forty feet out from the entrance of the small stream which forms its chief feeder, and the third was

from the centre of the lake opposite the Smuggler's rock. In all three the physical properties of the water after passing through filter paper was good and the reaction neutral. Soda was found chiefly in the form of sulphates with a much smaller proportion of chlorides.

History.

Naini Tál is mentioned in the *Mánasa-khanda* of the Skanda Purána under the name Tririkhi-sarovara, or the lake of the three Rishis, Atri, Pulastya and Puláha. The legend runs that these sages on their pilgrimage came to the peak of the Gágar range now called Chína and were thirsty and found no water. On this they thought of Mánasarovara and dug a large hole, which was at once filled with water from Mána, and hence the lake thus formed by them was called 'the lake of the three Rishis.' It is added that he who bathes in it derives as much benefit as those who have visited Mána itself. The name Naini is derived from a temple to that goddess built on the borders of the lake and destroyed by the landslip of 1880. Traill merely mentions the name of the lake, and the first account of it is found in an issue of the *Englishman* (Calcutta) at the end of 1841, which announces 'the discovery of a lake in the vicinity of Almora.' This was followed up by a letter to the *Agra Akhbár* by Mr. P. Barron of Sháhjahánpur under the name 'Pilgrim' who gives an account of a visit to the lake then almost unknown.[1] He describes the lake and its outlet and then the present site of the recreation grounds:—"An undulating lawn with a great deal of level ground interspersed with occasional clumps of oak, cypress and other beautiful trees, continues from the margin of the lake for upwards of a mile, up to the base of a magnificent mountain standing at the further extreme of this vast amphitheatre, and the sides of the lake are also bounded by splendid hills and peaks, which are thickly wooded down to the water's edge. On the undulating ground between the highest peak and the margin of the lake, there are capabilities for a race-course, cricket ground, &c., and building sites in every direction for a large town." He approached Naini Tal from the Khairna side and returned by Rámgár, the natives at first refusing to guide him and denying the existence of a lake.

[1] His letters were collected and published at Agra in 1844,

In 1842 Mr. Barron again visited Naini Tal, and notes that about half a dozen sites for building had been applied for or granted, and Mr. Lushington, the Commissioner, had commenced the erection of a small house. Rules were drawn up in 1842 for the grant of lands for building purposes at a small ground-rent to be paid by the occupant so long as the land was used for the purpose for which it was required. The lease, too, contained clauses binding the lessee to the observance of such rules as the local authorities with the sanction of Government should from time to time prescribe.

Before 1842 there was not even a hut in the valley, which was only visited by the neighbouring villagers at a festival held once a year in honour of Naini, at which the usual sports and recreations of a small country fair in the hills took place. Mr. Lushington allotted sites for a bazár, public buildings and a church, erected by public subscription in 1846 at a cost of Rs. 15,000 and dedicated to "St. John in the Wilderness." Mr. Barron launched the first boat on the lake, and amongst other incidents records the death of a bear at Smuggler's rock and the wounding a tiger, which fled to the recesses of Ayárpátha. Leopards, *langúr*-monkeys, chamois and *jarau*-deer were amongst the other animals found here. As late as 1845, the site of the present upper bazár was filled to a great extent with *ringál* (bambu) jungle, which even then harboured tigers. Madden records[1] a visit to Naini Tal at the end of 1846, when houses had begun to spring up, and Captain Arnaud began to build at Gaiwála-khet, now occupied by the Diocesan school.

Amongst the more common trees and plants[2] recorded by Madden are the cypress, *surai* (Cupressus torulosa); pine, *chír* (Pinus longifolia); ash, *angu*, (Fraxinus floribunda) ; hornbeam, *chamkharak* (Carpinus viminea) ; cherry-alder, *puya-udesh* (Betula acuminata), alder, *udísh* (Alnus nepalensis); five kinds of oak, *bánj* (Quercus incana); *Karshu* (Quercus semicarpifolia); *riánj* (Quercus lanuginosa); *tilonj* (Quercus dilatata) and *phániat* (Quercus annulata); maple, *patanglia* (Acer oblongum); *lodh* (Symplocus paniculata); *buráns* (Rhododendron arboreum); *ayár*, (Andromeda ovalifolia) after which Ayárpátha is named ; holly (Ilex dipyrena and I. odorata); *jhatela* (Prinsepia utilis); *jamuna* (Cerasus cornuta); *mehal* or pear (Pyrus variolosa); *gwála mehal* (Pyrus baccata) ; *gingáru* (Cratægus pyracantha) ; *raus* (Cotoneaster bacillaris) ; *gari* (Cotoneaster microphylla); *sánd* (Photinia dubia); Pœonia emodi ; *burau* (Albizzia wightii); *chauniya* (Populus ciliata); *qural-patta* (Skimmia laureola); *makola* (Coriaria nepalensis); *chotra* (Berberis aristata); *set-baruwa* (Daphne papyracea); *chumliya* (Daphne sericea); *múnri* (Abelia triflora); Potentilla nepalensis and

[1] J. A. S, Ben., 1848, p. 356. [2] The botany is recorded in Gaz. X.

splendens; Agrimorica nepalensis; *jhár* (Spiræa cuneifolia; Rubus tiliaceus); Fragaria indica and nubicola; Rosa brunonii and macrophylla); *kágshi* (Cornus macrophylla and oblonga); rue, *upunya-ghás* (Ruta albiflora); *bhuliau* (Rhus vernicifera); *timúr* (Xanthoxylon hostile); Indigofera dosua and pulchella; Desmodium elegans, hexagonum and parvifolium; Astragalus leucocephalus, chlorostachys and sesbanoides; Primula floribunda and speciosa; Androsace sarmentosa; Sedum sinuatum; Thalictrum rupestre; Aquilegia pubiflora; *ghantiáli* (Clematis velutina); *banda*, (Hedera helix); *majethi* (Rubia cordifolia); *jáhi* (Jasminum grandiflorum); *surmáli* (Jasminum dispermum); Geranium lucidum, nepalense and wallichianum; *chalmori* (Oxalis corniculata); *chuduwa* (Rhamnus virgatus); box (so called) (Myrsine bifaria); *bhunguriya* (Elscholtzia polystachys), *ganiya* (Salvia lanata); *ban-tulsi* (Origanum normale); *bhilmora* (Colquhounia vestita); Platystemma violoides; Cynoglossum canescens; *kapúr-nali* (Strobilanthes glutinosa); *mirch-múl*, (Erigena roylei), *páti* (Artemisia indica); *chireta* (Ophelia paniculata and others); *paderiya-lahsan* (Allium wallichianum); *ningála* (Arundinaria falcata); *dhúmni* (Satyrium nepalense) and *múrhíla* (Marsdenia roylei) besides some one hundred others of the list given in a previous volume, but this is enough for a student to commence with.

Birds.

The following are some of the birds observed[1] in the neighbourhood of Naini Tál and Almora: Black vulture (*Otogyps calvus*, 2), large tawny vulture (*Gyps fulvus*, 3) long billed brown vulture (*G. indicus*, 4), white-backed vulture (*G. bengalensis*, 5), white scavenger vulture (*Neophron percnopterus*, 6), bearded vulture (*Gypaetus barbatus*, 7), the kestril (*Tinnunculus alaudarius*, 17), white naped pigmy falcon (*Hierax eutolmus*, 20), crestless hawk eagle (*Nisaetus bonelii*, 33), crested hawk-eagle (*Limnaetus cristatellus*, 35), white-eyed buzzard (*Poliornis teséa*, 48), common paria kite (*Milvus govinda*, 56), tawny fish-owl (*Ketupa flavipes*, 73), common swallow (*Hirundo rustica*, 82), wire-tailed-swallow (*H. ruficeps*, 84), red-rumped swallow, (*H. daurica*, 85), common Indian swift (*Cypselus affinis*, 100), alexandrine parakeet (*Palæornis alexandri*, 147), slaty-headed parakeet (*P. schisticeps*, 150). Of the Picidæ or woodpeckers, the himalayan pied woodpecker (*Picus himalayanus*, 154), the brown-fronted woodpecker (*P. brunneifrons*, 159), the rufous-bellied pied woodpecker (*Hypopicus hyperythrus*, 161). Of the Cuculidæ or cuckoos, the European cuckoo (*Cuculus canorus*, 199), the pied crested cuckoo (*Coccystes melanoleucus*, 212), the Indian koel (*Eudynamis orientalis*, 214). Of the Nectarinidæ or sunbirds the purple honey-sucker (*Arachnechtra asiatica* 234), the himalayan tree-creeper (*Certhia himalayana*, 243), the white-tailed nuthatch (*Sitta himalayensis*, 248) the European hoopoe (*Upupa epops*, 254). The more remarkable game birds are the pukrás (808); manál (804) lungi (806) and chír (809) pheasants: the snow-cock (816); snow partridge (817); black-throated partridge (824); woodcock; snipe and quail. The kalij pheasant (810) and chakor partridge (820) are both found in the neighbourhood of Naini Tál.

Najangár, a confluent of the Káli near Golam-lá in patti Chaudáns and pargana Dárma of the Kumaon district, takes its rise in

[1] Brooks, Ibis, 1869, 43, numbers given refers to Jerd . Birds, besides those given here, Brooks mentions about 60 others for which reference must be made to the article quoted. See further, Jerdon's Birds.

the Yirgnajang peak. It is a most impetuous torrent, falling in cascades rather than rapids, over a very steep rocky bed, through a deep ravine flanked with precipitous mountains, on the other side rises the Naunjang peak on the left close over the Káli, and the Lingaru to the right some 18,500 feet high : while behind the great peak of Api rises to 22,799 feet. The Tampagár stream rises from a glacier under Lingaru plainly discernible from Golamlá. The Najangár is crossed by a *sanga* bridge about a mile above its confluence with the Káli. Still further north is the Malpagár, another small rapid which also joins the Káli (*Strachey*).

Nákúri, a patti of parganah Dánpur in Kumaon is bounded on the north by Dánpur Bichhla; on the west by Talla Dánpur; in the east by Púngaraun of Gangoli, and on the south by Dúg. Nákúri was separated from Talla Dánpur at the recent settlement. The assessable area comprises 3,126 *bísis* of which 1,468 are culturable and 1,658 are cultivated (989 irrigated). The land-tax yielded Rs. 667 in 1815: Rs. 1,136 in 1820 and Rs. 1,452 in 1843. The existing land-revenue is Rs. 3,167, which falls on the whole area at Rs. 1-0-2 per acre and on the cultivated area at Rs. 1-14-7. The population comprised 1,923 males and 1,567 females at settlement. Eight villages were received from Pungráon. The patwári lives in Maholi and there is a school in Saneti. The village of Nákúri is ten miles from Kapkot on the Jalath road and the same distance from Tejam : elevation about 5,000 feet.

Nalapáni or **Kalanga**, about three miles north-east of Dehra in Dehra Dún on the western boundary of Tihri in north latitude 30°-20′-25″ and east longitude 78°-8′-30″, noticeable for its protracted defence[1] in 1815. The hill on which the fort is built is about 600 feet above the lowlands and has a plateau on its summit about three quarters of a mile long and very difficult of access from the steepness of the ground. Nalapáni is also a station of the G. T. survey with an elevation above the sea of 3,286 feet and is so named from a spring which supplies good drinking water. The remains of the fort are about a mile above the spring.

Nandák, a patti of parganah Badhán of British Garhwál is bounded on the north by Malli Dasoli and Talla Painkhanda, on the

[1] Gaz. XI. 636.

west by Talli Dasoli and Kapírí; on the south by Karákot and Pindarpár and on the east by the same patti and Talla Painkhanda. It is occupied by the upper valleys of the Nandák and Chúkla. The Mokh stream is fed from the northern slopes of the Buldiana (8,589 feet) Búgala (9,286) and Khariapáni (8,894 feet), peaks. See BANJBUGR. The patwári of this patti lives in Pharkhet and collects the land-revenne of patti Malli Dasoli also; both aggregated in 1864 Rs. 1,519 for land-revenue and *sadábart* and Rs. 84 for *gúnth* paid by 3,967 souls. The higher villages are little better than sheep-farms, being too high for cultivation, and on this account the assessment is low when compared with the area. There are iron mines at Mokh, Kálban and Peri and old lead mines at Mokh.

Nandákini, a river rising in the glaciers on the western slope of Trisúl in Patti Nandák and parganah Badhán of the Garhwál district has its principal sources in north latitude 30°-16′-10″ and east longitude 79°-46′-5″. High up the source there is a temple to Nanda Devi and beyond the temple, a large rock, both of which are visited by pilgrims. The temple is situate near Tantara-kharak above the village of Satol whence tracks lead to the grazing grounds in the neighbourhood. To the west of Satol at Nand-garh-kharak passes the road from Almora by Baijnáth to Rámni where again the road from Nandprayág to Tapuban is met with in the heart of the most picturesque tract in the Garhwál hills. The Nandákini receives on either side numerous torrents and eventually joins the Alaknanda on the left bank at Nandprayág on the Badrináth road. It is crossed by an iron suspension bridge at Nandprayág and by a spar-bridge at Ghát on the road to Rámni from Lohba. In 1857 there was a heavy landslip at Jákhana in Malli Dasoli which blocked up the river for three days.

Nandprayág, a small trading mart in British Garhwál, is situate at the junction of the Alaknanda and Nandákini rivers in Patti Dasoli Talli and parganah Dasoli in latitude 30°-19′-56″ and longitude 79°-21′-29″ at an elevation of 2,805 feet above the level of the sea. The road hence from Karnprayág is nearly level, lying along the left bank of the Alaknanda river, close to Karnprayág, the river is crossed by an iron suspension bridge. The villages of Bansáuli Khál, Langásu and Súnta are passed on the road and the several streams are bridged. Nandprayág is a little over nine miles from Karnpra-

yág, and it is usual to pass on to Pursaribugr close under Mathána, about 1½ miles further on, crossing the Nandákini by two bridges, one of 78 feet span. There is a temple here dedicated to the Nág Taksha, hence the place is often called Takshaprayág: there is a school here in the cold weather; many of the Mána and Níti Bhotiyas dispose of the Tibetan salt and borax to the local traders here, who send the borax on to the refiners in Rámnagar, where it is sold to traders from Farukhabad. The trading time lasts from the middle of November to April, and during this time immense numbers of sheep and goats laden with Tibetan produce, or returning with grain, tobacco, and unrefined sugar may be met along the road; a road here branches off by Bánjbugr to Almora.

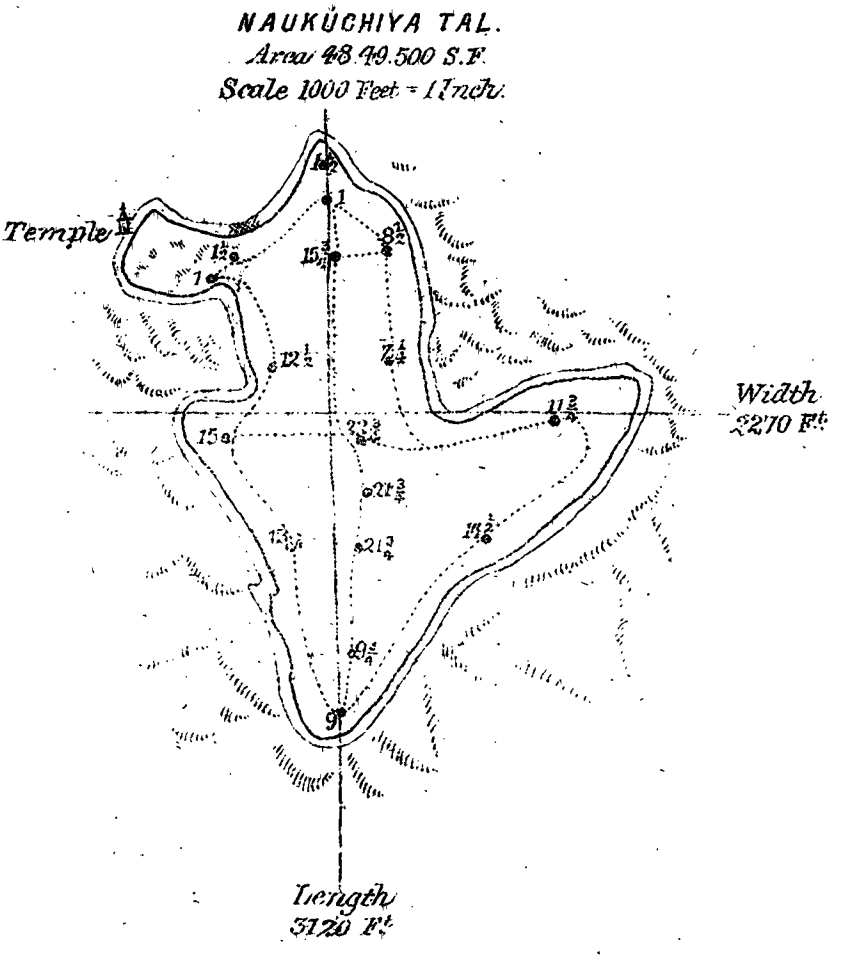
Nanda Devi, a group of peaks in Patti Malla Dánpur of parganah Dánpur in Kumaon of which the principal peak is situated in latitude 30°-22′-34″ and longitude 80°-0′-46″ with an elevation of 25,661 feet according to the Kumaon and Garhwál survey, 25,749 feet according to the old survey and Strachey's map. It appears like a spire of greyish rock sprinkled with snow, lying to the north-east of Trisúl and north-west of Nandakot, the sides forming angles of about 70° and rising far above the similarly-formed snow-clad summits which surround it. The summit is altogether inaccessible; but over a mile below it, a *mela* or religious festival is held every twelfth year, though access to the spot is so difficult that it is reached by scarcely fifty of the pilgrims who make the attempt. Further progress is impracticable, in consequence of the mural cliffs of ice which on every side encase the peak. The natives maintain that smoke is sometimes seen to issue from its summit, which they regard as the kitchen of the local deity; but there is no good evidence of volcanic action in the higher masses of the Himálaya, and the appearance probably results from the forms given by currents of air to clouds resting on the mountain and to snow taken up in whirlwinds.

Náráyanbugr, a halting place on the route by Lohba to Nandprayág and from the latter place to Baijnáth, is situated on the right bank of the Pindár river in latitude 30°-8′-5″ and longitude 79°-25′. The route from Lohba leaves the Karnprayág road at Gair or Gwár, and then turns north-east ascending the watershed between the Pindar and Rámganga

rivers by the Inorakhál pass between Kánpur (9,522 feet) on the east and Kandal (8,553 feet) on the west. Thence the road passes by Kandauli and Búnga down the valley of the Agangár to its confluence with the Pindar at Náráyanbugr where there is a bridge. From Karnprayág a road follows the left bank of the Pindár river eastwards by Simli to this place and thence on to Bánjbugr by Ming and Ira.

Naukúchiya Tál, or the lake of the nine corners, is situate in parganah Chhakháta of the Kumaun District, distant 2½ miles from Bhím Tál and 14½ miles from Naini Tál, in latitude 29°-19′-20″ and longitude 79°-37′-38″ at an elevation not exceeding 4,000 feet. There is a travellers' bungalow and a shop for the sale of grain at Bhím Tál. The lake is of an irregular shape, somewhat resembling the ace of clubs, elongated at the north-western corner near the temple. On the west it is covered over with weeds and lotus plants to a large extent. It is fed by streams from the neighbouring hills but neither springs, outlet nor current, were detected by Dr. Amesbury at his survey in 1871. The length is 3,120 feet from north to south and the breadth from east to west 2,270 feet. It has a superficial area of 538,833 yards, or 111·35 acres. The greatest depth of 134½ feet is found in the middle near the intersection of the lines of greatest breadth and length, and the least depth of seven feet close to the northern end. "Its shape, the nature of its surroundings, and the narrow winding course of the outfall," writes Mr. Ball, "all seem inconsistent with the view that it is of glacial origin." It is hotter than Bhím Tál but very picturesque and pretty, and when the lotus is in flower well worth a pilgrimage. Fish of various species from one to twenty pounds are found in the lake. The water is of a rich bluish-green colour, clear and still and apparently pure and wholesome. The hills around are thickly clothed with forest which gives cover to *kákar*, *gúral*, wood-pigeons and pheasants. There is every reason to believe that in former years the lake covered a very large extent of surface, some twenty or thirty times its present extent, as exhibited by the surrounding country which bears every appearance of having been subject to the action of water. The waters would appear to have escaped through the lower strata of the hollow now occupied by the lakes—Náukuchiya and Bhím. Tradition has it that if any one sees the

nine corners of the lake at one time he will die within the year, but happily the feat is impossible. An embankment was tried at the apparent outlet, but it was found of little use as the water escapes by subterranean channels.



Nawáda, or Nágsiddh as it is sometimes called, is a well-wooded hill in the Eastern Dún of Dehra about five miles south-east of Dehra with the Súswa river flowing along its southern base. On the hill close to the village of Nawáda are the ruins of a building said to have been the palace of the old Rájas of the Dún. In the village itself is a rest-house for *fakírs* and a temple to Mahádeo at which

the people of Debra and the neighbouring villages assemble annually on every Monday in the month of Sáwan (August).

Nayades, a patti of parganah Shor in Kumaon is bounded on the north by Kharakdes ; on the west by Mahar ; on the east by the Káli river, and the south by Saun. The road from Pithoragarh to the Jhúlaghát across the Káli to Nepál runs through this patti from east to west by Khil and Biskoli. The principal villages are Bhuteri, Bugurtoli, and Gauryáth. The assessable area comprises 1,197 *bisis*, of which 359 are culturable and 837 are cultivated (218 irrigated). The land tax yielded Rs. 292 in 1815 : Rs. 425 in 1820 : Rs. 508 in 1843 and at present Rs. 1,272, which falls on the whole assessable area at Rs. 1-0-8 per acre and on the cultivation at Rs. 1-7-6 per acre. The population at settlement numbered 1,063 males and 892 females.

Nayán Palla, a patti of parganah Páli Pachháon in Kumaon, is bounded on the north by Talla Chaukot ; on the west by Malla Sult ; on the east by Nayán Walla and on the south by Walla Sult and Talla Kakalasaun. This patti was separated from Nayán at the recent settlement. It lies along the right bank of the Rámganga river and is traversed from north to south by a mountain ridge containing the peaks of Mandhil (6,214 feet) and Puriya-ke-Chauki (5,737 feet). The principal villages are Kúrhidhár, Burkinda, Buserhi, Músyoli and Dúngra. The temple of Nauleswar is situated here at the junction of the Gagás with the Rámganga. The road from Rámnagar to Másí follows the left bank of the Rámganga which is here fordable except during the rains. The statistics of the Palla and Walla pattis may be shown thus :—

Nayán.	Assessable area in *bisis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.*		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Palla ...	2,510	13	1,963	534	786	1,344	1,406	2,206	1,938	1,838
Walla ...	2,829	25	1,187	616	1,465	2,157	2,122	2,530	1,977	1,899

The assessment on the total assessable area falls in the Palla patti at Rs. 0-14-1 per acre and in the Walla patti at Rs. 0-14-4

per acre: on the cultivation only the incidence is Rs. 1-1-10 and Rs. 1-2-4 respectively per acre. The patwári resides in Jhímár.

Nayán Walla, a patti of Pálí Pachhaon in Kumaon, is bounded on the north by Talla Giwár; on the west by Talla Chaukot and Palla Nayán; on the east by Talla Dora and on the south by the Gagás river, which separates it from patti Talla Silaur. This patti was separated from Nayán at the recent settlement. It lies along the left bank of the Rámganga river south of the Jhaurkot-gadh. The principal villages are Bárhikot, Baman-Chaunda, Inda, Naikana, Naula and Bhikiya at the confluence of the Gagás with the Rámganga. This patti lies along the left bank of the latter river containing, however, few important villages. The statistics are given under NÁYAN PALLA. One village was received from Giwár at the recent settlement. The patwári resides in Bhikiya-Sain.

Nilang, a village in Tihri, which gives its name to the passes at the source of the Jádh-Ganga or Jáhnavi (*q.v.*) into Tibet, is situate in north latitude 30°-6′-30″ and east longitude 79°-3′-5″ at an elevation of 11,310 feet above the level of the sea. The village gives its name to the entire valley from Bhairongháti to the passes into Tibet. It is known as Chongsa by the Huniyas. Mr. Kinney visited[1] it in 1878 and from him we learn that—

The features of the Nilang valley correspond with the general physical characteristics of this portion of the Himálaya as observed in other similar valleys. The main line of water-parting is, as a rule, lower and the slopes about it easier than in the southern belt marked by the highest groups of snowy peaks. Here as elsewhere the groups of snowy peaks forming the line of highest elevation lie to the south of and dominate the line of water-parting and are separated from each other by lateral valleys more or less ope towards their heads and, as a rule, contracting into stupendous gorges as they pierce through the snowy range and debouche amongst the lower mountains. The entrance to the valley from Bhairongháti up to near the village of Nilang is through a gorge which may be called terrific. Snowy peaks from 20 to 21,000 feet in height tower apparently immediately overhead, the river-bed having here an elevation of 11,000 feet. Falls of 9,000 to 10,000 feet in a horizontal distance of under three miles are not uncommon while sheer precipices of in one or two cases over 3,000 feet overhang the stream.[2] The valley preserves the same characteristics for a distance of about fifteen miles up past the village of Nilang to the junction with the Mána-gádh. Above this junction, the valley gradually opens out and

[1] Report on the survey of the western sources of the Ganges, particularly the Jádh-ganga or Nilang valley, in 1878: by Mr. T. Kinney, G.T.S., 1878-79.

[2] See BHAIRONGHÁTI.

the hills assume a softer and more gentle aspect: though the declivities are still steep they lose the bold, abrupt and craggy appearance of the gorge lower down, and in some places the ascent from the stream to the ridge is over comparatively gentle slopes covered up to a certain elevation with short grass and in places blooming with flowers and a sort of heather. The grass and heather have a peculiar sickly scent which producing a certain sense of faintness, adds to the difficulty of climbing due to the rarified air. With some people who appear to be peculiarly subject to its influence this faintness becomes overpowering and hence its name amongst the natives '*bish-ke-hawa*' or 'poisonous air.' It occurs all over the hills at similar elevations and produces violent headache, sickness at stomach and a total inability for prolonged exertion. Above the limit of vegetation, here about 17,000 feet, the hills become steeper again, the surface being a strangely confused mass of loose rocks of all shapes and sizes, intermixed with patches of snow and ice, a perfect chaos of broken fragments. Deep down between the crevices of these rocks appeared solid masses of ice and frozen snow which, melting in the day, made the footing difficult, so that the stones and rocks give way when trod upon and causing others to move create a small avalanche, to the danger and discomfort of the traveller. From the water-parting at the head of the valley the ground slopes down to the Hop-gádh, an affluent of the Satlaj.

There are here two passes into Hundes, that to the west known as Thága-la and that to the east called Tsáng-chok-la.[1] There is a third pass from Raithal to Hundes, but it is seldom followed now. The boundary of Hundes leaves the main line of water-parting near Tára peak and runs along the ridge dividing the Mána gádh from the Mána valley proper and from the Gangotri valley. It then crosses down the glacier opposite Nilang and across the Jádh-ganga to the Basáhr frontier. The Tihri Rája formerly claimed up to the water-parting at the passes but his customs' post is now at Nilang. There are but two villages in the valley, Nilang and Jádhang, the former with some thirty families and the latter with about ten families. Nilang is within Basáhr but its cultivation is partly in Tihri and partly in Hundes. Jádhang, ten or eleven miles further on, is in Hundes. The two villages belong to the Jádhs, who are here the carriers and brokers with Hundes, like the Bhotiyas of the Kumaon valleys. The *sayána* of Jádhang is subordinate to the *sayána* of Nilang and both pay collectively to Tihri Rs. 84 a year, to Hundes, Rs. 100 a year and to Basáhr a capitation tax of a *háth* (about eighteen inches) of the local woollen stuff in addition to a small sum in coin altogether valued at about Rs. 60 a year. As is the custom in the Kumaon valleys, the Jádhs migrate southwards in the winter to Dhúnda on the Bhágirathi, some seven or eight marches below Nilang.

Trade.

On the trade between Nilang and Chaparang (Tsáparang) Mr. Kinney writes in 1879:—

"The estimated value of the trade across the passes at the head of the Nilang valley is from Rs. 25,000 to Rs. 30,000 yearly. Of this amount from Rs. 16,000 to Rs. 20,000 passes through the hands of the Jádhs, the balance being accounted for by the trade of the Khampas and Garhwális. The Rája of Tihri formerly levied an *ad valorem* duty of one anna in the rupee on all imports, equal

[1] About thirty miles from Bhaironghâti.

to 6¼ per cent. In 1878, however, a new impost was made of a *timáshi* on each bag of salt, which is equal to about 20 per cent., wool and other imports being taxed proportionate. The tax is farmed out to a Tíhri official, who appoints his own collectors. The Jádhs complain bitterly of the new arrangement, and consider themselves a ruined community. They had to borrow money in 1877 to pay up the tax, which they have not yet been able to repay; indeed, they had again to borrow a sum of Rs. 4,000 towards the end of last year. Unless they pay up the year's demands in full the Rája of Tíhri does not permit them to move down to their winter quarters on the Bhágirathi at Dhunda."

The following are the statistics of trade for five years :—

	1878-79.		1879-80.		1880-81.		1881-82.		1882-83.	
	Exp.	*Imp.*	*Exp.*	*Imp.*	*Emp.*	*Imp.*	*Exp.*	*Imp.*	*Exp.*	*Imp.*
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Maunds...	8,234	...	4,164	7,853	5,340	8,754	4,075	4,816	7,828	10,166
Value ...	35,152	...	23,492	47,495	21,946	48,255	19 800	29,543	32,365	62,193

The exports in 1881-82 comprised cotton goods valued at Rs. 520; (grain 3,840 maunds) worth Rs. 10,852 : metals valued at Rs. 787; oil-seeds worth Rs. 286 and sugar worth Rs. 140. The imports during the same year included salt weighing 4,506 maunds and valued at Rs. 18,024, wool worth Rs. 3,696 and borax worth Rs. 750. In 1882-83 the exports were cotton goods worth Rs. 1,060; grain Rs. 19,061 (7,145 maunds); metals, Rs. 1,105; oil, Rs. 327; oil-seeds Rs. 1,434; sugar Rs. 476 and tobacco Rs. 870. The imports during the same year were 9,746 maunds valued at Rs. 38, 984 and wool and woollen manufactures valued at Rs. 8,800. The trade through the passes to Tsáparang or Chaprang is chiefly in the hands of the Jádhs, though Khampas from Basáhr and a few of the Garhwális from the upper villages also trade with the Húniyas. The Basáhri Khampas have permission to travel all over Tibet without question. The Jádhs go to Toling, Tsáparang and Gartoh while the Garhwális are seldom permitted to go beyond Dokpa-Aur, or, if they do, only under the escort of Jádhs or Basáhris.

Níti, a village of patti Painkhanda in Garhwál, is situate thirteen miles to the south of the pass of the same name which lies in north latitude 30°-57′-59″ and east longitude 79°-55′-3″ at an elevation of 16,628 feet above the level of the sea (others 16,570 feet).

The village is built at an elevation of 11,464 feet on the left bank of the Dhauli and at the foot of a ridge which sweeping round defends it on the north and north-west from the violent storms which blow from those quarters. There

are a few flat pieces of terraced ground bearing scanty crops of buckwheat and barley, but here, as in Mána, the Bhotiyas pay little attention to agriculture. Moorcroft found the temperature in the middle of June to vary from 40° to 50° at sunrise and at mid-day from 70° to 80°. In consequence of this the Dhauli and other streams are swollen in the advanced part of the day by the melting of the snows and shrink considerably during the night. During Moorcroft's stay the high mountains were towards the close of day regularly enveloped in clouds, from which snow descended on the more elevated parts, and gentle rain on the valleys. Much of the snow was melted by the heat of the sun during the next day, and again replaced during the succeeding night: and these successive depositions and meltings continued throughout the warm weather. Such great changes affect the health of natives as well as strangers with catarrhs and fevers, active in their effects for a short time, but neither dangerous nor of long continuance. From October until May the inhabitants of the Dhauli valley migrate to lower situations, completely deserting their villages. The whole country at that season is covered with deep snow. In summer, however, notwithstanding the elevation exceeds 11,000 feet, the land in the neighbourhood of the villages produces crops of barley, amaranth and buckwheat, and the hills and mountain sides yield excellent pasture to large flocks of goats and sheep and a few yaks and *jubus*. The route from the village to the pass is up the course of the Dhauli, which rises on the southern side of the pass. After the track diverges from the Dhauli the ascent becomes very steep and encumbered with the detritus from the neighbouring hills. The pass itself once crossed leads by a gentle declivity for some distance to the plains or undulating country of Tibet which even at this elevation produces crops of *ua-jau* (*Hordeum himálayense*). Webb who visited the pass towards the end of August reports that there was not a vestige of snow on the pass nor on the shoulder of the hill which rises some 300 feet above the pass on the left side. The tableland near the pass is very stony and barren, producing only mosses and prickly shrubs resembling furze and intersected by numerous ravines, the channels of torrents discharging themselves into the Satlaj. The rocks scattered over the plain are of blue limestone abounding in fossil remains especially ammonites of which some account has already been given.[1] To the north-east Kailás may be seen (see KAILÁS) but from the great general elevation of the country and the distance which is not much under one hundred miles, its apparent height is inconsiderable.

The Níti pass is esteemed the easiest and safest from Garhwál into Tibet and is open from the latter end of June until the second week in October. (See BHOTIYA MAHÁLS). The sufferings of travellers from disordered respiration, in consequence of the tenuity of the air, are very severe; and though the Bhotiyas take pains from early age to train themselves to endure it, some can never succeed; and even yaks and other beasts are not exempt from sufferings resulting from it. The most marked symptoms are vertigo, inordinate action of the heart, accelerated respiration, and the most distressing difficulty of breathing. The statement of Batten is conclusive as to the reality of this influence:—"During this walk I was almost killed by mere pain. The rarity of the air along this high road to Dába (nearly 17,000 feet) was perfectly awful. My dandi people would

[1] *Gaz.* X, 2151-16.

not go on, and returned to the crest of the pass. One man accompanied me; and he and I went groaning along at a snail's pace, on a level, and yet in great agony. *Angina pectoris* I now consider nothing in comparison.[1] I felt the pain most at my chest, and suffocation seemed to threaten me at every step." At the same time others who have travelled over the same tract have assured me that they felt no ill-effects and that the complaints of the Bhotiyas are directed to extract the gift of a bottle of brandy. There are two other passes from Niti, one leading by the Malchák pass and Rúnkún to Hoti or Ráj-Hotí and the Tunzum-la (Ting-Jung) pass into Tibet and the other by the Chor-Hoti. Both these passes were visited[2] by Lieutenants H. and R. Strachey in 1848, and the river at Hoti was explored as far as was practicable. They describe the river as exactly corresponding with those crossed on the road from Milam to Hundes by Unta-Dhúra. The road by Chor-Hoti runs due east and it takes two marches to get across it, but there is always danger from avalanches, while the pass ends in an abrupt slope down which men and animals must slide, though it is not any great length. These difficulties cause this pass to be less used. The regular pass, though only about sixteen miles long from Niti, from the badness of the road and difficulty of travelling in such rarified air takes three days to get through; but it is not a difficult one. In addition to the common wild flowers found all along the road up to Niti, there is a regular "gorse" with a yellow flower growing all over these mountains from Malári to the Tibetan boundary. The new road or rather an improvement of the old road, is completed up to the village of Niti, and is a great boon to all the traders with Hundes rendering the carriage on animals much less risky than it used to be; and also benefiting the animals themselves who can travel even longer marches with less tax on their endurance. The usual march for laden sheep is six miles a day.

The following account[3] of Mr. Batten's visit to the Niti pass is the best that we yet possess :—

Batten's journal.

"Near Joshimath and the whole way to the junction of the Rini river, which comes from the north-west face of Nandi Devi, this glen is characterised by the most exquisite scenery; the southern mountains sloping down to the river covered by forests of *Quercus semicarpifolia, Rosa Webbiana* (wild red rose), yew, horse-chesnut, alder, poplars and elms, interspersed with pretty villages of which the chief ornament, are the fields of red *márs*a (the *battu* of Bisáhr) a species of amaranth, while the high craggy northern mountains and peaks, that form the separating ridge between Badrinath and Niti, come down to the Dhauli in the most terrific precipices. Above the Rini, both sides of the glen assume the regular Himálayan features of wild sublimity, although villages are everywhere seen perched upon seemingly inaccessible heights. The river remains broad and deep, though often broken into cataracts. The road is carried on either side of the river as most easy, and is crossed by fine *Sangas* or spar-bridges. There is a very dreary glen without villages for ten or twelve miles separating upper from lower Painkhanda, or as

[1] As. Res. XVII, 4 : XII, 399 : J. A. S. Ben. 1838, p. 313. [2] J. A. S. Ben. XIX, 79. [3] J. A. S. Ben. VII, 310 : Traill's intended visit (in letter to Government, 12th December, 1817 and 22nd September, 1818), was to the Garpun at Dába.

they are sometimes, but improperly, called upper and lower Níti. After leaving the oaks and elms, &c., the wood becomes entirely cypress, and from summit to base of the mountains no other tree is seen The larger trees attain not unfrequentlyan enormous size, some of them having a girth of 27 feet. At Juma Upper Painkhanda is entered, and then the scenery, retaining all its grandeur, also becomes exquisitely lovely. Villages of the true Swiss character are seen on every open spot, surrounded by cedar trees and overhung by crags of the most stupendous character wooded up to the snow which shines on their summits, with similar trees and birch, which latter as well as the sycamores have at this season the true autumnal tints, contrasting finely with the dark branches of the deodár. The bridges now become very frequent; and the river, though still unfordable, becomes a torrent falling over rapids.

Malári.

Malári is next entered, a very large village. After leaving Malári we marched up a glen of the most beautiful kind, the deodár trees (all of spreading shape) coming down to the waters' edge, and now beginning to be mingled with *chila* pines (*Pinus excelsa*, not unlike the *chir* at a distance), and *rágha* firs (*Abies Webbiana*): a set of large villages is then entered, Bampa, Gamsáli, &c., all varying in elevation from the sea from 10,200 to 11,000 feet and upwards, the highest of which is Níti. At Bampa, the *deodárs* end,

Bampa.

and no other tree is seen save birch and *Pinus excelsa*, but the ground is covered, as well as the surrounding heights, with beds of ground cypress, gooseberries, currants, furze, (*Astragalus Roylei*) Webb rose, sweetbriar and juniper. The furze is especially plentiful, but there is no heath the *Andromeda fastigiata* of Royle as at Badrináth. Up to Gamsáli, the rocks have been quartz, mica, schist and gneiss, with granite blocks in the river beds, fallen from the peaks, except in the neighbourhood of Malári where argillaceous and talcose schist is the chief rock. At Gamsáli the granite is met with *in situ*, pervading gneiss and mica schist.

Gamsáli.

The breadth of the veins is sometimes very thin, but sometimes the granite spreads into great broad patches. It is a reddish variety in general, but a highly quartzose variety with large school or tourmaline crystals is very common. Just above Gamsáli the river runs through tremendous gneiss and granite precipices, and the road is carried along scaffoldings. After turning this corner and ascending to Níti village, the Himálaya peaks are all turned, not one is left to the north, though some of the north-west and northeastern heights are within perpetual snow limits. Níti limestone (not crystalline) and argillaceous schist, chiefly the latter, are the rocks. After arriving at Níti I proceeded on to the junction of the Ganesh-ganga with the Dhauli where I met with the first snow near Gildung, more than 14,500 feet high, and this snow was merely a snow-cave in the river, the leavings of last winter. A few masses of gneiss and granite were still to be seen in the bed of the Dhauli, the debris of some of the southern precipices through which I could see the granite veins running along; argillaceous schist and quartz were the rocks of the surrounding hills. There is one very bad gorge between Gothing and Gildúng pastures, where there was some trouble in making a road, but after Gildúng the hills are round and smooth up to the pass. They were covered with grass and Saussurea flowers, the grass of very peculiar kinds and noted for its goodness.

The rivers Ganesh-ganga and Dhauli are mere streams, and were half frozen above Gildáng at their junction, but near Gothing, the Raikanda joins the main river with a large body of water, arising at this season from a glacier, and up to this point, the Dhauli may be said to be unfordable, except at one or two rocky points near Niti. The Ganesh-ganga may be said to arise from a snow bed, for I saw snow-caves towards its source, but the Dhauli or furthest branch of the Ganges certainly rises from a spring at the southern face of the pass when on the 11th October there was not even a speck of snow. After leaving the source of the Dhauli, the ascent was very steep through crumbling crags of blue limestone which now succeeded to the round clay-slate hills; but the top of the pass was round and open, the limestone interspersed with arenaceous quartz rocks.

Ganesh-ganga.

The first object that caught my eye was the Kailás peak standing up in the east-north-east. Right in front stretched a dreary plain, shrubless, treeless and houseless, terminated along its whole northern side at a distance of about twenty miles from my position by a low range of rounded brown hills, utterly without shrub or tree or jutting rock, but very broken into ravines and perpendicular faces on this their southern side. The plain is broken into ravines and river-courses running down to the Satlaj which flowed (not visibly as to water) in a deep ravine not far from the base of the round hills. I found the ammonites lying about in hundreds on the top of a small ascent just as the road wound through a kind of pass between two hillocks, before it descended to a ravine. The distance from the Niti pass was about three miles, but at this point the continuation from that pass of the crags forming the first rise of the Himálayan mountains was not very distant. The rocks surrounding the fossils were a kind of mottled grey limestone, *i.e.* the white veins were more frequent than in ordinary limestone. Tibet is, in fact, entered very soon after leaving Niti village and the peaks seen so grandly towering in the south are the real beginning of the Himálaya mountains and not the crest of the pass. It is possible that fossil ammonites can be found on the south face of the Niti pass, which is in my idea only the highest portion of the Tibetan plain running up to the Himálayan peaks. Even at Niti there are peaks 23,000 feet high due south; and there as well as at the pass itself the spectator wonders how one is to thread one's way into Hindustán through them, no gorge or glen being visible, that seems to be like an introit or exit. Behind Malári the hills become round and Tibetan also, as well as behind Niti, but being higher and within the limit of perpetual snow, they are difficult to cross, and the pass following a river bed is preferred. The time to visit Niti is from the 20th September to the 10th October. In May, Malári even is hardly reachable, and the snow does not melt in any part of Upper Painkhanda till the end of that month. The pass is not open till July. On the evening of the day (11th October) on which I visited the pass, the first snow fell. All night it snowed heavily and next day I could hardly reach Niti. Such are the vicissitudes at this season. At 3 P.M. when the wind got up, the thermometer was 30° in the shade and 42° in the sun at the crest of the pass. On the morning of the 12th, in my camp at 14,500 feet, the thermometer was 16° in the air and 22° at my bedside."

Hundes.

Niyo-dhúra, or Neo-dhúra, a pass into Hundes in Patti Malla Dárma of Kumaon, is often called the Dárma pass and lies in north

latitude 30°-27′-10″ and east longitude 80° 35′ at an elevation of 18,510 feet above the level of the sea. It is much frequented by the Bhotiyas by the route up the Dhauli valley, though considered more difficult than the adjacent pass to the east, the Lunpiyalekh at the head of the valley of the Kuthi-Yánkti, as the glacier lies at the Hundes side of the pass. In 1846, a Bhotiya with a flock of 100 laden sheep were swept away in an avalanche at Dawa encamping-ground at the foot of the pass in the Dhauli valley. Kachh is the name given to a second pass a little to the west of the Niyo-dhúra and which leads into the glen of the Dárma-yánkti in Tibet. It is very little used, as being both dangerous and difficult.

Nyár, or more correctly Nayár or Sáni, a river formed by the confluence of its eastern and western branches at Bhátkulu in patti Manyársyún of parganah Bárahsyún of British Garhwál.

The eastern branch rises on the north-western slopes of the Dúdú-ke-toli range in latitude 30°-7′-30″ and longitude 79°-10′ at an elevation of between 7,000 and 9,000 feet. It follows a course at first south-westerly then south and then due west, to its confluence with the western Nyár or Chhipalghát river near Bhatkolu in patti Manyársyún. Thence the united streams under the same name flow north and west and fall into the Alaknanda at Byáns-Ghát in latitude 30°-3′-40″ and longitude 78°-38′-30″ at an elevation of 1,342 feet above the level of the sea. From their source to their junction both branches have a rapid fall, after which the united rivers show a succession of deep pools swarming with fish, and in the rains form a ready means of transport for the timber of the forests along their banks. The total length to its longest source according to Herbert is about fifty-miles. Where crossed by Webb in April, at about five miles above its mouth, the stream was forty yards wide, twenty-six inches deep and running at the rate of eight miles an hour. There is a bridge across the stream on the Srínagar and Kotdwára road at Sangúrásera also known as Belkhet. There is also a road which goes by Marwára separating from the Belkhet road at Banekh-khál three miles beyond Puriya-ke-manda. The bridge at Marwára consits of a *sanga* having a span of 97 feet. It is also crossed by an iron suspension bridge of 92 feet span at Byáns-ghát on the road between Srínagar and Hardwár. The eastern branch flows through parganahs Chandpur, Chaundkot, Malla Salán and Bárahsyún and forms the boundary for a short distance between parganahs Chaundkot and Talla Salán and from the junction it is the boundary between the Ganga Salán and Bárahsyún parganahs. It is crossed by a bridge on the Almora and Páori road at Kainúr; on the Páori and Dhárou road by a good ford between Kalwára and Chauráni in patti Iriyakot of parganah Malla Salán and by the Kotdwára and Khátali road at Dhúra where there is a bridge of 82 feet span. The streams which unite to form its headwaters near Marwára in Patti Choprakot are the Syonsi, Khirganga, Ladholi, Dumodhyar and Pathargadh. The principal feeders on the right bank are the Músetigadh and the Machhlád which drains the eastern pattis of parganah Chaundkot

and at its junction forms the boundary between Kolagár and Gurársyún, the left side the Eastern Nyár receives the Khátlgadh which rises near Lakhora in Kumaon and drains Patti Khátali. Next to it comes the Maidi which drains the entire valley of Kauriya Walla, and the upper portions of Malla Sila. There are some large villages close to the banks of the eastern Nyár amongst which may be mentioned Marwára and Hansúri in Patti Choprakot, Gorpála and Kalwári in Iriyakot and Kandui, Babína and Toli in Malla Badalpur.

The northern branch of the Western Nyár takes its rise near Khand in Patti Kandársyún of parganah Dewalgarh and flowing in a south-westerly direction unites with the southern branch near Paithani in the same patti. The latter drains the high lands of Patti Dhaijyúli and is the more considerable of the two, flowing for about ten or twelve miles north-west. Thence to their junction with the Eastern Nyár the combined stream forms the boundary between the syúns or pattis of Chaundkot and those of the Bárahsyún parganah. The Western Nyár is crossed by the Páori and Dhárun road at Jwálpa by a bridge of 67 feet span. It receives numerous feeders draining the slopes on either side of the tract through which it flows among them—the Pasíu, Kota and Ira streams flow into it on the right bank and the Pen, Kul and other minor torrents on the left bank.

Páchhu, or Pánchhu, a village in patti Malla Juhár of Kumaon is situate in north latitude 30°-24′-10″ and east longitude 80°-11′-30″ at an elevation of 11,060 feet above the level of the sea on the right bank of the Gori and about three miles from Milam. The village possesses an assessable area of 42 *bísis* and a population of 228 souls. It is situate on the left bank of a torrent proceeding from a glacier on the eastern slope of Nanda Devi of which there is a grand near view: on the right bank is Gánagarh. Páchhu is held free of revenue, on condition of supplying food and shelter to pilgrims proceeding to Mánasarowar in Tibet. Gánagarh on the opposite side has a population of 122 and some 25 acres of arable land: a fair is held here every year in the rains. The rock here where weathered becomes a reddish brown clay but grey in the fracture. Many of the fragments contain ore in some quantity and all have descended from the heights above.

Paidulsyun, a patti of parganah Bárahsyún in British Garhwál, is bounded on the north by Nádalsyún; on the south by Kapholsyún; on the east by Khátsyún, and on the west by Patwálsyún and Gangawársyún of the same parganah. The patwari resides in Páori and collects the land-revenue of patti Patwálsyún; both aggregated Rs. 2,173 in 1864 with a population of 4,466 souls. There is a school at Kamera. This patti comprises the upper valley of the Ira stream along the right bank of which runs the road from

Jwálpa to Srínagar joining the Kotdwára road to the same place at Búba-khál near Páori.

Painun, a patti of parganah Talla Salán of British Garhwál, is bounded on the north by Badalpur Malla and Iriyakot; on the west by Badalpur Talla; on the south by the Pátli Dún and on the east by Búngi. The road from Páori to Dháron passes through this patti. There is a school at Badiyargaon on the Páori road where the patwári lives. The land-revenue for 1864 amounted to Rs. 1,841 and Rs. 50 for *gúnth* and resumed revenue-free grants. From Mr. Batten's remarks it is clear that this patti must have made considerable strides since 1840. Elephants do not now intrude on the cultivation and tigers are rare. The climate is hot and the soil is rich and except about Jhirt the valley is not unhealthy. The rock is limestone and slate. A small iron mine is worked at Agarwára. The forests comprise oak and dwarf *sál*.

Painkhanda, a parganah of Garhwál, occupies the extreme north-eastern portion of the district and is divided into two pattis or sub-divisions the Malla and Talla. Its fiscal history and general description will be found under the article BHOTIYA MAHÁLS. Mr. Traill describes it in 1816 as containing—

"Twenty two villages, of which ten are situated in the snowy mountains and are inhabited solely by Bhotiyas. In the year 1811 A.D., this sub-division was assessed at Rs 4,051 *Gk*, half to be paid in money and half in merchandize at a fixed and specified price. A lease for the year 1816 was granted in the first instance to the *sayánas* on the standard of the receipts of 1813 A.D. at Rs. 3,500 *Gk* = Rs 2,625 *Fd.*, with the usual agreement in regard to money and merchandize. On the payment by the *sayánas* of the first instalment at Srínagar, it was found that for many of the articles given in there was no sale in that town, while of the others the market price was far below the rates specified in the engagement rendered. Under these circumstances, the *sayánas* were directed to pay in lieu of the half in merchandize one-third of its amount in Government rupees the other two-thirds being granted as a deduction for probable loss in sale, this arrangement reduced the net assessment to Rs. 1,750 *Fd.*"

The present assessment amounts to Rs. 2,656. In 1841, the population numbered 4,603 souls, of whom 2,154 were females; in 1853, 6,358 souls (2,079 females); in 1858, 5,959 (2,909 females); in 1872, 6,383 (3,150 females) and in 1881, 7,513 (3,731 females).

Painkhanda Malla, a patti of parganah Painkhanda in British Garhwál is bounded on the north by Tibet on the west by Tihri, on the south by Parkandi, Malla Nágpur and Talla Painkhanda,

and on the east by the Kumaon parganah of Juhár. It occupies the upper valleys of the Sáraswati by which the route by the Mána pass crosses into Tibet and the valley of the Dhauli forming the route by the Níti pass. The principal places in the former are Pándukeswar, Kalyánkoti, Badrináth, Mána, and the pass itself. Along the Níti road are Ríndi, Jhelum, Malári, Bampa, and Gamsáli. Near the latter is Níti village below which the route diverges one road passing by Húnkharak and Kála Juhár across the Chorhoti pass to Rúnkún and thence to Hoti, a second crossing direct by Malchak to Hoti and the third passing up the Dhauli valley by Bomprás, Damchen, Kharbasiya and Kyunlung to the Níti pass.

Painkhanda Talla, a patti of parganah Painkhanda in British Garhwál is bounded on the north by Painkhanda Malla; on the west by Malla Nágpur; on the south by Dasoli and on the east by Juhár. This patti lies along the lower course of the Dhauli river or farthest branch of the Ganges before its junction with the Bishnuganga at Joshimath and also for a few miles along the united river henceforth known as the Alaknanda. It also includes the tract lying along the western slopes of Nanda Devi and Trisúl and drained by the Ríníganga. It is more fully described under the article BHOTIYA MAHÁLS. The patwári resides in Urgam: one-third of the villages are held in *gúnth*.

Paláin, a river rising on the southern slopes of the ranges in the eastern parts of Malla Síla and Badalpur Talla of British Garhwál in about latitude 29°-1′, and longitude 78°-45′ flows in a southerly direction. Its eastern branches known as the Khohban, Budh-ka-sot and the Haldgadi-sot flow south-west and join the western branch known as the Khansur river at Kákarbári. The Dhargaon range (3,908 feet) forms the water-parting between the Paláin and the Mandhál while the Siddh-ka-dauda range separates the Khansur valley from the Mandálti valley on the west. Further south on the left bank it receives the Bhitliyád stream and on the right bank near Chawalthúra the Mandálti draining the Chokum Dún hence the united streams are known as the Taimuriya which receives the Bahliád on the left bank. It eventually joins the Rámganga on the right bank near the middle of the Pátli Dún a few miles east of the Bogsárh bungalow in latitude 29°-34′-35″ and

longitude 79°-50′-30″. A good road crosses the Taimuriya near its junction with the Rámganga and recrossing at the Sidhhgár passes north again near the Bahliád. It again crosses to the right bank as far as the Bhagtuwa-chaur and then keeps to the left bank as far as Am-Sot beyond Chawalthúra, hence it keeps to the right bank to Kákarbári where it crosses the Khansúr and turning sharp to the east follows the course of the Haldgadi branch on to the Mandhál valley. During the dry season the Paláin hardly flows, but it has numerous deep pools or *kunds* throughout its course. It is a slow flowing river and is rarely more than 24 feet broad, but its bed is deep. Except near its source it is very little used for irrigation, as for the greater portion of its course it runs through uninhabited forests.

Pálbelon Malla, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Chárál Talla; on the west by Sipti and Pálbelon Talla; on the south by the latter patti and on the east by the same patti and Tallades. This patti was separated from Pálbelon at the recent settlement. The statistics of the Malla and Talla pattis may be shown thus:—

Pálbelon.	Assessable area in *bisis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.* Irrigated.	*Cultivated.* Dry.	Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
Malla ...	611	51	388	172	144	216	279	457	325	273
Talla ...	3,754	159	2,460	1,134	1,100	1,432	1,700	2,881	2,105	1,788

The land-tax falls at Rs. 1-0-8 per cultivated acre in the Malla patti and at Rs. 1-1-7 in the Talla patti. Two villages were transferred to Sipti and three to Assi at the recent settlement. The patwári lives in Báyala and there is a school in Palsaun.

Pálbelon Talla, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Sipti and Pálbelon Malla; on the west by Talli Rao of parganah Dhyánirau; on the south by Tallades Bhábar and on the east by Tallades. This patti was separated from Pálbelon at the recent settlement. The statistics are given

under the Malla patti. The united patti lies west of Chárál and Tallades and extends to the Bhábar, much is high and hilly but not too much so for the growth of turmeric, whilst along the lower slopes and in the valleys all the best grain crops can be raised. One village was received from Talli Rao at the recent settlement. The patwári lives in Dyúri and there is a school in Dhúragaon.

Páli, a considerable parganah of Kumaon, comprises nineteen pattis each of which is separately noticed, *viz* :—

Chaukot Malla, Bichhla and Talla; Dora Malla, Bichhla and Talla; Giwár Palla, Talla and Walla; Kákalasaun Malla and Talla; Nayán Palla and Walla; Silaur Malla and Talla and Sult Malla, Palla, Talla, Walla. The land-tax at the various settlements has been assessed thus :—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
21,050	21,166	25,769	31,236	32,684	32,764	33,249	33,892	57,320

The revenue now falls on the whole assessable area at Rs. 0-14-8 per acre and on the cultivation at Rs. 1-1-7 per acre. The whole assessable area amounted to 62,641 *bísis* of which 10,406 are culturable and 52,235 are cultivated (2,294 irrigated). Besides this, 1,304 *bísis* are held as temple endowments and 97 are free of revenue. There are 773 mahâls or estates comprising 1,048 villages[1] of which the population at settlement numbered 48,054 males and 44,304 females and in 1881 there were 52,062 males and 53,581 females.

Páli possesses no very lofty ranges and is chiefly remarkable for the broad valleys of the Western Rámganga and its tributary the Bino, which unite near Briddh Kedár, and the wide lateral glens of the Khatsári, Kotlár, Naurár and Degádh streams. To a traveller coming from Garhwál they would suggest that he is leaving the hills altogether. Not less surprising is the aspect of many of the smaller ridges of the hills themselves, especially in the sub-divisions known as Malla and Talla Dora covered from base to summit with villages and terraced fields, and separated from each other by a succession of highly cultivated table-lands and valleys, both small and large. Of these last the course of the Gagás river and its affluents presents favorable examples. Of the former Dwára Hát and its neighbourhood is a well-known illustration. The tributary Naihal from the west also reaches the Rámganga through a fertile and populous country, but less flat than the tracts abovenamed. Khatsári in Giwár owes its redemption from waste and a fatal climate in quite recent times to the zeal and industry of

[1] In 1815 there were 603 villages and in 1821 there were 942 villages. To Government 14th March, 1821.

the principal padhán and his cultivators, having been fostered and encouraged by Mr. Traill. It immediately borders on the Garhwál patti of Lohba, the fort of that name overhanging the frontier line, and its iron mines are the most extensive and productive in the province. The pilgrim road from the northern shrines here enters the parganah and leaves it again at the points where the narrow ridges of Buret and Kath-ki-nau form the only barrier which separates the waters of the Rámganga and Kosi. The name of the parganah is derived from the village of Páli, which is situated on a low spur of the Naithána ridge above the Rámganga in Talla Dora, and which was formerly the residence of a Gorkháli officer, and, in the earlier part of our rule, of a British tahsíldár.

Mr. Batten further remarks that though Páli more resembles a plain than a hill parganah, it has already sufficiently paid for the reputation of superiority; and perhaps has borne a burden which, if equalization had been possible of attainment, ought to have been more generally distributed. After all, in a mountain parganah, where nearly every village has been cultivated to the utmost, where the population is increasing without many outlets for its surplus numbers, where the most productive soil is most precariously situated, whence the markets for produce can only be reached by personal human labor without any artificial means of transport, and, finally, where the wages of labor at Naini Tál and Ránikhet, or of service as sepoys and chaprasis is considered by the heads of villages as far more certain assets than the prices of produce, the present settlement may be thought a hard one. Our successors in the province will require no written English reports to make them rapidly acquainted with the people of Bárahmandal and Páli. Three-fourths of the litigation in the Court belong to these parganahs.

Panar, a river rising in Patti Malla Sálam of Parganah Chaugarkha in Kumaun in latitude 29°-27′ and longitude 79°-47′, drains the southern declivities of the mountain range running north-east from Julna on the Lohughát road to the Mathurapuri (6,897 feet) peak and thence south-east by Dúrga, Páli (5,010 feet) to Gaulikhán (4,591 feet) forming the water-parting between the Sinniáon and Panár. It flows circuitously but generally in an eastern direction forming the boundary between the eastern half of Malla Sálam and Talla Sálam and between Rangor on the north and the Chálsi, Gangol, Sui-Bisung and Regarubán pattis of parganah Káli Kumaon on the south to its junction with the Sarju on the right bank above Rámeswar in latitude 29°-31′-22″ and longitude 80°-7′-25″. The total length of its course is about twenty-five miles. Buchanan states that he heard that gold was found in its channel, but he alone mentions it.

Pandukeswar, in British Garhwál on the route from Srínagar to Húndes by the Mána pass, lies 54 miles north-east by east of the former in latitude 30°-37′-59″ longitude 79°-35′-30″, and nine miles north of Joshimath, being half way between that place

and Badrináth. The temple of Yog-badri, one of the Panch-badri, is here. The name of the village is said to have been given it on account of the Pándavas who, after making over Hastinapur to Parikshit, retired to this place to worship and die. The population at the census of 1872 numbered 267 souls. Some of the treasure belonging to the Badrináth temple is kept here. The villagers trade a little with the Bhotiyás and also open shops during the pilgrim season. Elevation above the sea 6,300 feet.

Panthi, a village and encamping-ground in patti Pindarwár of parganah Badhán in Garhwál on the route from Karnprayág to Bágeswar, is situate on the left bank of the Pindar river in latitude 30°-7′-45″ and longitude 79°-25′-40″: distant 10 miles, 4 furlongs and 35 poles from Bugoli and 13 miles 1 furlong 7 poles from Jolabugr.

The road hence to Jolabugr continues along the left bank of the Pindar river to the junction with the Kaub river (2,715 yards), to the Míng rivulet, tolerably level, 1 mile 6 furlongs 34 poles from Panthi. Thence by the Ira (Eera) and Kolsári rivulets to Lamgaunda, 4 miles 5 furlongs 20 poles. Hence across the Kimani and Raikholi rivulets to the Tharáli bridge leading by Dúngari and Bánjbugr to Nandprayág, 2 miles 3 furlongs 37 poles. From Tharáli where there is a Bquiyá's shop the Deorara and Tirwakot rivulets are crossed and the road, still tolerably level, passes by Kotaulibugr to Jolabugr, 3 miles 6 furlongs from Tharáli. The encamping-ground is close to the bank of the Pindar, but it would be better to march two miles further on close to the first tea-garden, whence there is an undisturbed view of Trisúl from base to summit.

Panuwa-Naula, a halting-place, village and traveller's bungalow on the route from Almora to Pithoragarh, situate in patti Talla Lakhanpur of parganah Chaugarkha in Kumaon, lies in latitude 29°-38′-35″ and longitude 79°-51′-15″ at an elevation of 6,489 feet above the level of the sea and a few hundred feet below the summit of the ridge: distant 13 miles from Almora, 40 miles from Pithoragarh and 8 miles from the next stage at Naini. The bungalow has a watchman but no cooking utensils or table attendant; supplies may be obtained at the grain shop here.

The road hence to Almora winds along the slopes of the valleys of the headwaters of the Likhdawar-gadh, a tributary of the Suwál, crossing by an iron suspension bridge and then ascending again to the ridge above the valley of the Suwál itself. This river is here crossed by a bridge and a very steep ascent leads round by the Sintola and Hiradúngari hills to Almora. The rock mica, schist, with one or two small patches of granite under Sintola. The road throughout is devoid of forest and shade and is exceedingly hot in the summer. This march

should be made in the early morning, if possible, as, owing to the open nature of the valley, the sun's rays are present the whole way.

Páori, or Páuri, a village in patti Nádalsyún and parganah Bárahsyún of Garhwál, is situate in north latitude 30°-8′-59″ and east longitude 78°-49′-8″, at an elevation of 5,350 feet above the level of the sea, distant 7 miles 2 furlongs 4 poles from Srínagar; 11 miles from Karsu; 12 miles 1 furlong 28 poles from Toli; 11 miles 6 furlongs 39 poles from Puriya-ke-manda on the road to Kotdwára; 10 miles 14 poles from Simkhet on the old or middle line to Almora; and 9 miles 6 furlongs 20 poles from Sirobugr on the line to Kedárnath. Páori is built on the ridge separating the head-waters of the Kandui-gadh from those of the Randi river. It is chiefly distinguished as the seat of the civil administration of Garhwál and the court of the Assistant Commissioner. There is a station of the American Episcopal Methodist Mission, established in 1864, in Chopra, one mile from Páori.[1] The mission has prospered fairly in the work it has set before itself, though not making many converts. There is a good school with branch schools at Srínagar and Dandamandi and small vernacular schools in some of the villages around Páori. The head-school at which a good English education is given has been a great boon to the people and improves every year. There is also an orphanage attached to the Mission. A large school-house, towards the erection of which Government gave a grant-in-aid, was completed in 1872, and there seems every prospect of this Mission becoming very prosperous and doing a much-needed work. Government had a large tea-garden at Gadoli about three miles from Páori on the same ridge to the south-east. It was purchased for a lakh of rupees by a planter, who has given up working a great portion of the tea-land, and now gets but a small yield from what used to be considered one of the best plantations in these hills.

Though not very high, from its aspect and situation Páori is cool, and in the winter very cold, as it loses the sun early in the afternoon. The country in the vicinity is thickly and highly cultivated and is connected with the plains and the interior generally

[1] It is in the middle of the district, taking it from north to south, and is most centrically situate for all except Badhán and Lohba. It would not be wise to leave Páori without an European officer, even should the head-quarters be removed to Lohba. The buildings at Páori could be utilised for the civil courts now at Srínagar.

by good roads. It has been proposed to remove the public-offices from here to Lohba, which has a better site and climate; but other considerations have hitherto prevented this being done. The station is built on the northern side of a high ridge culminating in the Kaṅkwála peak (6,651 feet) and faces the snowy range looking up the Ganges valley. There is an excellent garden here containing English fruit-trees of all kinds which is used as a nursery for their distribution over the district.

Parkandi, a patti of parganah Nágpur in British Garhwál, is bounded on the north by Kálíphát Malli; on the south by Kálíphát Talli and Nágpur Bichhla; on the west by Bámsu, and on the east by Nágpur Malla. The road from Chamoli on the Alaknanda in Dasoli by Gopeswar and Tungnáth passes through the eastern part of this patti across the Agaskámini stream to the Kedárnáth road, which follows the left bank of the Mandákini river. The patwári of Malli Kálíphát, resident in Guptkáshi, collects the land-revenue of this patti also, which is all alienated in *sadábart* for charitable purposes. The villages are of good quality, some of them growing sugarcane, but they deteriorate as they ascend the valley. The prevailing rocks are granite and slate.

Pátli Dún, or Bhábar, one of the largest of the valleys or Dúns formed by streams in British Garhwál flowing between the main ranges of the hills and a lower range of clay and sandstone immediately bordering on the plains, is bounded on the north by Ajmere, Síla Malla, Badalpur Talla and Painún; on the south and west by the Bijnor district, and on the east by the Kumaon Bhábar. To the west lie the Chokum and Kotri Dúns, which are included in the Pátli Dún or Garhwál Bhábar for all purposes.

Along the plains boundary a fair road runs in the Bijnor district and, commencing on the west, a road runs to Kotdwára by the Kauriya Chauki along the foot of the hills. Another runs up the Siya Sot by the Sanai peak (1,008 feet), passing Kotri in the Kotri Dún and bifurcating at Lúnkatta, whence the western branch goes on to Dogadh and the eastern by Dimki to Kusumghát in the Chokum Dún, also in a westerly direction. From Dimki a light track passes down the Mandálti river eastwards and joins the Páori road at Chawalthúra. Parallel with this, a track passes down the Kotri Dún from near Kotri, crossing the watershed between the Siya Sot and the Sona Nadi by the off-shoots of the Satarkári range and joining the Rámnagar road by Lakrighát, near the confluence of the Sona with the Rámganga. Midway this road is connected with the plains by a road from Moti-Sál to Kálu-Shahíd, about five miles. The plains are again connected with the Pátli Dún by three roads;

the most westerly follows the right bank of the Rámganga to its confluence with the Sona, thence crossing the Sona once and the Rámganga twice, it passes up the Tumriya and Mandálti to Chawalthúra, whence it proceeds up the bed of the Paláin as far as the Khansár river; here it turns suddenly east and passing by Haldgadi and Jhirt joins the Páori road at Kartiya. The Páori road enters from the plains by the Kanchanghát*i* pass and crossing the Rámganga in the Dún runs directly north by Semalkhaliya, Kotri and Unait. Further east, the Kainúr and Dháron road pierces the outer range by the Dánapáni pass and runs north through Tuliya and Konda, while the Rámnagar road runs directly east along the left bank of the Rámganga from the Bogsárh bungalow through the middle of the Pátli Dún. This tract is therefore well off for means of communication; the stages and distances on the principal lines are given elsewhere.

The whole tract may be divided into three. The Chokum Dún immediately under the greater ranges of the Himálaya to the extreme west is separated from the Kotri Dún by a range of hills attaining an elevation of over 3,000 feet and known as the Ránikot, Hathithán, Káli Harpál and Deo-kánda range. This forms the water-shed between the Mandálti which drains the Chokum valley on the north, and the Sona, which drains the Kotri valley on the south. Both these rivers run eastwards and fall into the Rámganga in the Pátli Dún. At the western end of both the Kotri and Chokum valleys a ridge runs north and south which sends the western drainage into the Siya Sot, running south and debouching on the plains at Sánai, while the eastern declivities of this ridge form the sources of the head-waters of the Mandálti and Sona. To the south the Kotri Dún is separated from the plains by a low sandy range attaining a height at Girijwála of 2,723 feet. At the eastern end of these Dúns commences the broad expanse of the Pátli Dún, through which the Rámganga flows. This valley is also separated from the plains by a low range of hills and receives the drainage of these hills and on the north those from the water-shed separating it from the Mandhál valley. In fact the whole tract is one mass of water courses, here called *sots*, pouring down to the main drainage arteries and all eventually swelling the waters of the western Rámganga, which join the Ganges in the Farukhabad district. The hills descend to the river in broad steppes covered with sál, cotton-wood, and other trees, many of which are very valuable. It used to be cultivated, and was also used as grazing land for large herds of cattle; but when Government took up the direct management of the forests, cultivation and grazing were both stopped. A large saw mill, which was to have been worked by water power taken by a canal from the Rámganga, was erected under the superintendence of Captain Reid, but it was found that the expense of working it would be too great, and the *sál* forests had been so recklessly cut that no wood remained to be worked up. The place at which it was erected is called Bogsárh, where there is also a bungalow still used by forest officers. Cutting in this Dún has been prohibited for some years, and the *sál* forest is visibly increasing and ought to become the best block west of the Sárda river. This and other Dúns are the hiding places of elephants and other wild animals; tigers are especially numerous, being driven there by increasing cultivation in the plains and Bhábar. The patti was formed in 1864 from the Pátli Dún and the forest portions of Painún, Badalpur, Síla, Karaundu, Ajmere and Udaipur, comprising what is styled in the forest records, the Kotri and Pátli Dúns and Bhábar Rawásanpár and

wár. All the villages interfering with the *sál* reserves were removed and the people were compensated or given lands in exchange in Bijnor."

Patwálsyun, a very small patti of parganah Bárahsyún in British Garhwál, is bounded on the north by Gangwársyún and Paidúlsyún; on the east by the latter patti and Aswálsyún; on the south by the latter patti and Manyársyún, and on the west by the latter patti and Gangwársyún. The patwári of Kapholsyún, resident in Sakhyána, collects the land-revenue of this patti also. Patwálsyún, so named after the clan that colonised it, contains the upper waters of the Khar-gadh. The road to Kotdwára by Mohripáni post-house passes through it and it possesses some oak and pine forest.

Phaldakot, a parganah of Kumaon, comprises six pattis, each of which is separately noticed, *viz*:—Chaugáon, Dhúraphát, Kosyáu Malla and Talla, Kandárkhuwa and Malli Doti. The assessment at each settlement has been as follows:—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
5,884	6,133	6,691	7,001	7,404	7,404	7,528	7,565	10,346

The incidence of the current land tax on the whole area assessable to revenue is Rs. 1-0-10 per acre and on the cultivation is Rs. 1-5-1 per acre. The assessable area comprises 9,832 *bisi*, of which 1,996 are culturable and 7,836 are cultivated (703 irrigated) and about 50 are held as temple endowments. There are 128 mahál or estates comprising 151 villages. The parganah reaches from Siyáhi Devi along the southern slopes of the ridge separating the drainage of the Kosi from that of the Rámganga as far as Bina. Westward of this, the mountain ranges are included in Páli, but in patti Kosyán the parganah stretches along the Kosi as far as Seti where it marches with the Kota parganah. With the exception of a few places in Kosyán there is little level and irrigated land, and some of this was injured much in the floods of 1880. All the upland pattis are similar in character to Dhaniyákot. It was formerly held by Káthi Rajpúts and named after the fort occupied by them. Batten writes:—

"The villages are for the most part large, well-inhabited and thriving, but the soil in the upper parts is not very favourable for the production of the best grains. The people of this parganah however are great traffickers, and with their neighbours of Dhaniyákot almost monopolize the trade in borax, &c., between Bágeswar and Rámnagar, as also the cloth and sugar trade between Almora and Káshipur. The

principal refining furnaces for borax at Rámnagar itself belong to hill-men of Phaldá-kot. The Pándes of Pándekota are a principal clan in Malli Doti, unaddicted to mercantile and carrying pursuits, while they afford village accountants, soldiers and messengers to Government."

The population at the current settlement numbered 8,582 males and 8,269 females, and in 1881, 9,406 males and 6,136 females.

Pharka, a very small patti of parganah Káli Kumaon, in Kumaon was formed from Sipti-Gangol at the recent settlement. It is bounded on the north by Asi and Gangol; on the west by Asi; on the south by Sipti, and on the east by Gangol. It contains the tract around the village of Pharka on the road between Lohughát and Almora and contains the villages of Batúla-bánj and Máragaon. The patwári lives in Pharka. The assessable area comprises 145 *bísis*, of which 63 are culturable and 82 are cultivated (10 irrigáted). The land-revenue amounted to Rs. 37 in 1820, Rs. 75 in 1843, and now stands at Rs. 112, which falls at Rs. 1-5-9 per acre on the cultivation and at Re. 0-12-4 per acre on the total area. The population at settlement numbered 27 males and 35 females.

Pharka, a halting-place and former travellers' bungalow in the patti of the same name and parganah Káli Kumaon of Kumaon, is situate in north latitude 29°-22′-48″ and east longitude 80°-1′-54″, at an elevation of 5,854 feet above the level of the sea; distant nine miles from Lohughát and 13 miles from Devi-dhúra. The bungalow has neither cooking utensils nor attendants, but there is a grain-shop. There are several good groves of *deodár* in the vicinity: one at Dana near Dernáth, another at Lúliya, and a third near the Pharka bungalow. There are several villages scattered over the neighbouring valleys, most of which are alienated in *gúnth* to the Badrináth temple at Almora. Much rice is grown in the swampy bottoms whose streams join the Ladhiya at Kelaghát. The rocks consist for the most part of granite in a state of complete disintegration.

Pharkiya, or Phurkiya, a halting-place on the route to the Pindari glacier, 5 miles from Diwáli, 69 miles from Almora and 3 miles from the glacier: see DÚGLI and DIWÁLI. There is a bungalow without attendants or supplies here.

Pindar, or 'ganger' from Sánsk '*pad*,' 'to go,' a river of Kumaon, takes its rise in a glacier in a hollow bounded by snowy

peaks over 20,000 feet high at an elevation of 12,088 feet above the level of the sea. The glacier is situate in north latitude 30°-15′-30″ and east longitude 80°-2′ in patti Malla Dánpur. The Pindar springs up at once from the foot of the glacier and has a course generally south, passing by Martoli, Phurkiya and Dúgli to Diwáli, where it is joined on the left bank by the Kuphini. Thence it bends to the south-west by Kháti to Wáchham, near which it receives on the right bank the Sundardhúnga and further on at Kanwári on the Garhwál frontier the Bháiganga on the same side. The course is thence more due west to the confluence with the Kailganga on the right bank at Talor in patti Pindarwár, where it bends southwards before again resuming its western course at Tharáli; it receives on the right bank the Goptára-gádh, and at Paitháni the Toligár stream, whilst on the left bank it receives numerous small torrents all along its course and at Simli the Bhárárigár. It joins the Alaknanda on the left bank in north latitude 30°-15′-43″ and east longitude 79°-15′-29″ at Karnprayág, at an elevation of 2,000 feet above the level of the sea. The Pindar is crossed by suspension bridges at Karnprayág and Naráyanbugr and by an iron wire-bridge at Tharáli. Some account of the Pindari glacier has already been given.[1] From Diwáli, at the confluence of the Pindar and Kuphini, the glacier of the former is distant a march and a half, and of the latter one march. 'Pindar' means an affluent or feeder, whilst '*Pindal*' is a bridge or causeway or passage over a river or ravine.

The following account of the journey from Dúgli to the glacier is from Major Madden[2]:—

"In the north-west Himálaya, contrary to the fact here, the passes are all gained by the north-west banks of the streams: here, in general, the eastern bank is most accessible. One circumstance remains constant, which is the comparatively level bed of the river below the glacier. From its source to the cave nearly, the Pindar flows along a wide channel, overspread with gravel and stones, the product doubtless of the glacier, which has no terminal moraine; its waters are exceedingly turbid, and though diminished above by the dozens of cascades, which of all sizes, and at all distances rush down from the snow, are quite impassable. The spot called Pindari is rather an open, undulating piece of ground, covered with grass, docks, and the ubiquitous shepherd's-purse, in an amphitheatre of crags, with many snow-beds along these bases; the ascent is rather steep, over rough, and occasionally pasture land, covered with *Sibbaldia*, *Salix Lindleyana*, a low shrubby *Astragalus*, the yellow aromatic *Tanacetum*, the

[1] Gaz. X, 182. [2] J. A. S. Ben., XVI (1), 256.

dwarf white *Helichrysum*, a garlic-like *Allium*, and two most abundant and beautiful blue Gentians. The glacier lay to the west, and between us and it rose a lofty moraine, along the hither or east base of which flows a considerable stream, the source of which is much more remote than that of the Pindar, which it joins one or two hundred yards below its exit from the ice. Having ascended perhaps a thousand feet and striking to the left crossed the moraine, which is here about 150 feet high, descend to the glacier, a few hundred paces towards its head, where it commences in huge broken tiers of the purest snow.

The moraine is constituted of gravel, mud, and blocks of stone imbedded in ice; the stones are very small. There is a very steep descent to where the river issues from a cave in the face of the glacier, about 20 feet high, by perhaps 90 wide; the impending roof is riven into four or five successive thick ribs of ice. The recent heavy rains had thoroughly washed the Pindari glacier, and its surface exhibited a sheet of the purest ice, except on and near the terminal escarpment, which, being covered with rubble, resembles, at a short distance, a steep bank of mud, and such is said to be the appearance in May and June of the Milam glacier. But to make quite sure fragments have frequently been broken off which evereywhere were perfect ice, the only difference perceptible, between this and the Alpine ice, being a coarser granular structure here. It is intersected by the same fissures, has the same rib and texture, and from its origin in the snow to its termination above the cave, falls in a series of the most beautiful curves. That the mass is moving downwards seems confirmed by the form of the snow at its head, *viz.*, a succession of terraces, with steep wales, just such as clay, &c., assumes on its support being removed. The glacier may be about two miles long, and from 300 to 400 yards broad, and probably occupies the interval between the levels 12,000 and 13,000 feet above the sea; owing its existence to the vast quantities of snow precipitated from Nanda Devi and the other lofty mountains above, which, melted by the noonday sun, is frozen at night. It must be observed, too, that, in spite of theory and observation elsewhere, the perpetual snow appears here to descend to the level of 13,000 feet: far from the head of the ice to the crest of "Traill's Pass—" the *col* which may be considered as the root of the glacier—there is an uninterrupted surface of snow, and that from its low angle, except for the lowest thousand feet, evidently *in situ*.

None of the culminating pinnacles of the Himálaya are visible from Pindari; though a great peak is immediately above on the east, but its northern shoulder, a massive snowy mountain, forms a grand object to the north-east, and this, passing the depression forming Traill's Pass, is continued in glorious domes and peaks to the left, where a beautiful pinnacle terminates the view, apparently the eastern most of the two lower peaks of Nanda-Devi. The adytum of the goddess herself is utterly concealed. Amongst some great rocks on the east of the moraine, numbers of the curious *Saussurea obvallata* are found, called the "*kanwal*" or lotus of Nanda-Devi; near it grows the *Oolomiæa macrocephala*, another sacred plant, bearing the strange name of '*kála tagar*," or black Tabernœmontana; and the common rhubarb (*Rheum Emodi*) here called '*dolu*.' The rocks in situ about the glacier are mica-slate and gneiss, but on the moraine, the fragments consist also of crystalline and slaty quartz, the latter often considerably colored with iron between the layers; horneblende rock is also common; and masses of the same granite which forms the great range at least

up to Gangotri. Though it exhibits quartz, felspar, and mica, the felspar is in such excess to the other minerals, and large crystals of black schorl are so abundant, that Captain Herbert probably did not recognize it to be granite, and hence his denial that this rock is found in the snowy range. It certainly differs much in appearance from the more authentic granite which is found north and south of the great chain, in Kunáor and Kumaon."

Pindarpár, a patti of parganah Badhán in British Garhwál is bounded on the north by Nandák; on the west by Karákot, on the south by the Pindar river, which separates it from Pindarwár and on the east by Kumaon. The patwári resides in Tharáli. The land-revenue and *sadábart* in 1864 amounted to Rs. 2,320 and the *gúnth* to Rs. 41 paid by 4,802 souls. The villages are good and bad, varying very much; they lie for the most part in the valleys of the tributary streams and there is much waste. There are iron mines at Kheta-Wudur worked and old mines of the same metal at Bulan, Mandauli and Súya, and lead mines at Jákh never yet worked.

Pindarwár, a patti of parganah Badhán in British Garhwál, is bounded on the north by the Pindar river, which separates it from Pindarpár of the same parganah; on the south by parganah Páli of Kumaon and patti Lohba of Garhwál; on the west by Sirgur and on the south-east and east by parganah Dánpur of Kumaon. It lies almost entirely among the high mountains bordering on the Pindar river and contains the source of the Gumti. The patwári resides in Kulsári. The land-revenue and *sadábart* in 1864 amounted to Rs. 2,240 and *gúnth* to Rs. 29 paid by 5,652 souls.

Pingala Pakha, a patti of parganah Chaundkot in British Garhwál is bounded on the east by Taláin of parganah Malla Salán and on all other sides by pattis of its own parganah. It is drained by a tributary of the Machhlád river. The patwári resident in Kánde collects the land-revenue of pattis Gurársyún and Kimgadigár also, which in 1864 aggregated Rs. 2,351 plus Rs. 133 for revenue-free and *gúnth* lands assumed.

Pinnáth, a temple and village in patti Borárau Palla of parganah Bárahmandal in Kumaon, is situate in north latitude 29°-50′-45″ and east longitude 79°-35′ about 32 miles from Almora by Dwárahát and seven miles from the latter place. It is built on a spur from the Gopálkot peak (9,050 feet) overlooking the upper portion of the Kosi valley. A colony of Gosáins reside here and

a number of their mahants lie buried close by, each with a small dome over his remains surmounted by a miniature ling. The Gosáins possess a grant engraved in metal conferring lands on Siva as Pinakeswar, 'Lord of the trident,' executed by Udyot Chand, Rája of Kumaon in 1613 *san.* (1691 A. D.) and another by Báz Bahádur Chand and his consort bearing date 1654 A. D.

"The temples are situated about half way up the hill above the village. The first is a small conical structure, eight to ten feet high, dedicated to Bhairon. The main temple is close to this on the north, a square, slated edifice, with the door facing the south, and figures of rájas, &c., sculptured on the walls. The roof of the portico is formed by the Indian arch, and on its sides are represented the five Pándavas; the adytum is small and contains nothing but one or two images of Mahádeo and Devi; about eighty years ago the original pile was nearly all overthrown by an earthquake. The place is only frequented in the rainy season and autumn, when in October there is a fair. The want of water is poorly supplied by a cistern and several wells, twelve to fifteen feet deep, excavated in the rock. So far the rock is quartz and slate, but onwards quartz only, disposed in vast beds, the outcrop of which faces west-south-west. The area of this summit is not above fifteen feet across, with precipitous glens all around, and an exceedingly narrow rocky ridge connecting it with Bhatkot (9,086 feet) bearing south-west. The Búrhapinnáth range is continued north-west in a very lofty and comparatively level spur, called Birchhwa (8,042 feet), excessively precipitous to the left or west-south-west. In this is the main source of the Kosi, which hence flows nearly due east for about five miles, its northern bank being formed by the slopes of Gopálkot, on whose craggy summit the Katyúr Rájas had a stronghold in which their treasures were deposited" (*Madden*).

Pipalkoti, a village and halting-place with *dharmsálas* and grain-shops on the route from Almora to the Níti pass, is situate on the left bank of the Alaknanda river in latitude 30°-25′-50″ and longitude 79°-28′-20″ in patti Talli Dasoli of parganah Dasoli in British Garhwál. It is distant 7 miles 6 furlongs from Mathána (1½ miles beyond Nandprayág) and 11 miles 3 furlongs and 34 poles from Hilang, the next stage. The road from Mathána lies along the left bank of the Alaknanda to Chimoli, about four miles, where there are *dharmsálas*, a dispensary and grain-shops. Here the Alaknanda is crossed by an iron suspension bridge and the new road follows the right bank to Hát, where it re-crosses and continues on the left bank to Pipalkoti. A stream that carries off the surplus waters of the small Diúri lake is crossed on the right bank. On the left bank by the old road the Khanyúri-gádh is crossed at Bhotiya bazár, the Biri-ganga at Biri and the Gat-gadh

[1] J. A. S. Ben. 1848, 619: Gaz. XI, 315, 782, 848, 566, 569, 591.

near Hát. This was abandoned owing to the floods in the Biriganga in 1869, which swept away the bridge there and at Chimoli.

Pithoragarh, or Pithauragarh or Shor, a village in patti Mahar and parganah Shor of Kumaon, is situate in north latitude 29°-35′-11″ and east longitude 80°-15′-9,″ at an elevation of 5,534 feet above the level of the sea, lies 16 miles west of the Káli river and 55 miles east from Almora. The station now occupied by one company of the 3rd Gorkhas from Almora lies nearly in the centre of the valley with a population in 1881 numbering 255 souls.

"The Shor[1] valley itself is about five miles in length by about three in breadth, dipping gently to the south-east and bisected into north and south by a tabular ridge of slate, limestone and greenstone originating in the mountains to the north-west and branching down to the south-east. On the south-western exposure stands fort Loudon on a mound apparently artificially scarped, about fifteen feet high, crowned by a loop-holed wall, seven or eight feet high, with platforms for guns, a few houses for barracks and a reservoir for water that is now empty. On a commanding point to the north-west is a small square tower about fifteen feet square, also loop-holed for musketry and known as Wilkiegarh. These are now untenanted and the barracks of the Gorkhas lie to the east of the fort. There is a school and police-station here. In former times the site was considered unhealthy and gave rise to fevers and bowel complaints during the rains. In 1873, in common with the rest of eastern Kumaon, cholera visited the valley and took a virulent form while it lasted.

The whole valley is prettily dotted with small villages, generally placed on eminences and surrounded by the only trees visible, except the distant forests of Bishár and Thákil. The land is often nearly quite level for extensive tracts, and is carefully cultivated with wheat, &c. The soil is a stiff clay, which, after ploughing, requires to be broken up by wooden mallets. The people do not emigrate to the Bhábar, which, with the fertility of the soil, is the cause of the abundance and cheapness of provisions compared with Lohughát and Almora. Each section of the Shor valley has its stream: that to the south, named Chandrabhága, flows along the south end, and, joined by the branch from the north-west, escapes south to the Káli by the temple and glen of Chaupakhiya. The outline of the enclosing mountains is extremely bold and varied, their sides sloping and grassy in some parts, steep as walls in others. To the east is the Durga range about 7,000 feet high, connected on the north with the remarkable summit of Dhuj, 8,149 feet high, with a contour exactly similar to a section through a parapet. To the south-south-west appears the long ridge of Thákil, with its three summits. To the north-north-west are the mountains over which goes the direct road to Almora, and north-north-east is a bold and lofty cone, the Koteswar peak, but better known to the English residents as the 'Drill' hill. It is reported to bear this last appellation from the tradition that, in days of yore, the colonel of the regiment stationed here was accustomed to punish delinquents by ordering them

Shor valley.

[1] Some derive the name from 'Swarga-rohini,' but the process is not clear.

to trudge, in full panoply, to the top of this hill, their commanding officer, telescope in hand, superintending the distant penance, in his own verandah. In this direction runs the road to Byáns ; the Chhipula mountain, 13,500 feet high, the last ramification of the Panch-Chúla, closes the horizon. About sixteen miles east of Pithoragarh, the Káli is passed by an iron suspension bridge, the boundary between the British and Nepálese territories, where each nation has a guard. The river is said to be there confined to a very narrow width between limestone cliffs Dr. McClelland found precious serpentine at Gúrat village, on the way down from Pithora." (*Madden*).

The people of Shor have a general impression that the prevalence of goitre in their valley is owing to the presence of so much limestone, and one may occasionally hear a hill-man object to Naini Tál on the score of the water there being impregnated with lime. Dr. McClelland has adopted this opinion and endeavours to prove by an induction from particulars that where the springs are in limestone, the disease prevails : where in slate, that it is unknown. There is not a trace of lime at Almora, yet the malady has shown itself there in several sepoys, natives of the plains, as well as in European children, none of whom could have had any hereditary pre-disposition. Dr. Dollard found the case the same at Lohughát. For an account of Dr. McClelland's researches see "Some inquiries in the province of Kumaon," Calcutta, 1835, by Dr. J. McClelland, page 254. Pithoragarh is a station of the American Episcopal Methodist Mission, which supports a dispensary and school here. For the road to Almora, see BÁNS : to Lohughát, see GÚN : hence to Bágeswar, by Beninág 10 miles ; to Sanudiyár 6 miles ; to Bágeswar 7 miles. Thal is distant from Pithoragarh 19½ miles.

The following table supplied by Mr. Beckett gives the marches from Pithoragarh to the Dárma and Byáns passes :—

Piúra, a traveller's rest-house, on the upper road between Almora and Naini Tál, is situate in north latitude 29°-30′-23″, and east longitude 79°-39′-23″, at an elevation of about 5,692 feet above the sea, distant 8½ miles from Almora, 23 miles from Naini Tál, and 10 miles from Rámgárh. It commands a particularly fine view of part of the Snowy Range. Being on the northern face of the mountain, it is very cold in winter. About five miles to the south-east is the Mukteswar peak covered with *Quercus dilatata*, which shelters one or two shrines of Mahádeo, Sain and Goril. On the crags a little below are certain marks which the people believe to be the foot-prints of elephants, horses, and camels, the army of a certain deity who, wishing to pass this way, was opposed by the local demon. The latter obtained deliverance (*moksha*) by being sent to live amongst the Agaris and hence the name Mukteswar. From Piúra there is a very long descent to the junction of the Suwál and the Kumniya, which is crossed by an iron suspension bridge, and then a steep and tiresome ascent up a bare

rocky hill for 1,600 feet to Almora. Of a hot day this is one of the most trying ascents for its length in the hills. The rocks are quartz, mica-slate, gneiss, and finally granite, which forms an entire hill south-west of Almora, and has apparently lifted up and in some places contorted the others to a remarkable degree. To the south, indeed, the strata appear to dip under the granite; they also contain in this neighbourhood quartz dykes supposed to indicate the action of granite. The quarries of micaceous and quartzsose rocks supply excellent materials for building and roofing.

Pungaraon, a patti of parganah Gangoli in Kumaon, is bounded on the north by Dánpur Bichhla; on the east by Máli of Síra and Tallades of Juhár; on the south by Baráun, and on the west by Nákúri. This patti comprises the valley of the Birar-gár, an affluent of the eastern Rámganga on the right bank. To the north it is bounded by a range extending from Kálinág (7,317 feet) westwards, and on the south by a similar range extending from Chaukori (6,553 feet) by Khamlek (6,847 feet) eastwards to the Rámganga. Paths connect the villages with the road from Bágeswar to Tejam on the north and to Naya Thal on the Rámganga just outside the boundary of the patti on the east. The assessable area comprises 2,499 *bísis*, of which 1,252 are culturable and 1,247 are cultivated (932 irrigated). The land-tax yielded Rs. 414 in 1815: Rs. 546 in 1820: Rs. 689 in 1843, and is now assessed at Rs. 2,417, which falls on the total assessable area at Rs. 0-15-6 per acre and on the cultivated area at Rs. 1-15-0 per acre. Some 59 *bísis* are held free of revenue. The population at the time of settlement numbered 2,466 souls, of whom 1,314 were females. The patwári resides in Saugor, where there is a school.

Rájpur, a village in the western Dún, with a fixed population of less than 2,000 souls, is situate at the foot of the Himálayan range on the road from Dehra to Mussoorie, six miles from Dehra and seven miles from the Landaur post-office. The site has an area of 1,018 acres, the highest point being about 3,000 feet above the level of the sea. There is a perceptible difference between the climate here and that of Dehra, a difference also marked by the vegetation. Rájpur possesses two hotels, a police-station, post-office, and a dispensary. The last is largely made use of by the considerable floating population employed in the carrying trade

between the valley and Mussoorie. An old canal repaired and made available in 1840-41 runs from the head of the Rispana torrent to the east of the town, and supplies the people of Dehra with drinking water.

Rákas Tál, a lake of Tibet adjoining Mánasarowar, is situate in north latitude 30°-44′ and east longitude 81°-16′, at an elevation of 15,300 feet above the level of the sea. It is also known as Ráwan-hrad and Cho Lagan or Langa by the Tibetans. The journey by the Lunpiya-dhúra pass from Kuthi as far as the Larcha or northern foot of the pass is described elsewhere. The journey thence to Rákas Tál, also taken from Captain H. Strachey's journal is described as follows[1]:—

Proceeded from the Larcha to Bhâwiti (15,750 feet), a short distance beyond this on an eminence 250 feet higher than Bhâwiti and 500 feet above the Dármáyánkti is a small flât covered over with religious structures called *Choktân* or *Mánepáni*, little towers of stones, stuck about with dirty ragged flags said to have been erected by some Láma, hence the name Choktán-Láma. Hence to the north is a low plain expanded to a considerable size, and to the east contracted to a mere valley, a mile wide, receding south-eastward behind the Choktân hill. Beyond this valley, north-eastward, the ground is occupied by lofty hills or low mountains not easily reducible to a regular plan, but the general tendency of them seem to be in parallel ranges running north-west and south-east, the most distant of them, the highest slightly tipped with snow in streaks here and there, and beyond these lines the lakes, entirely shut out from view.

In the low plain to the north-eastward, ten to twelve miles off, rises a small isolated hill, on the top of which was once a fort, called Nimakhar; Bhotiyas call it, Gyánima; there is no village or fixed habitation here, but it is a considerable resort in the summer for the salt and grain traffic of the Bhotiyas from Dárma and western Byáns. It lies on the road from Purâng to Gúgi, and one way to Gartoh, and on the road from Chirchun to Gángri. Immediately beyond Gyánima a long narrow sheet of water is visible; it is a sort of lake called Tára-chu receiving the drainage of the low plain and the adjacent hills on the east, and giving off its surplus water occasionally into the Chugár westward. Beyond this again rises a range of hills concealing the bed of the Tirthapuri Satlaj. Gyánima belongs to Kyunglung. Wild geese and ducks breed upon the lakes during the summer, and the people of Kyunglung take the eggs. From Láma-Choktân the path descended into the plain by a long, but easy declivity and crossed the flat where it is about a mile and a half wide; reaching the middle of which, it extends many miles in a long valley confined between the base of the Byáns Himálaya, and the ranges of the lofty hill which is visible from Láma-

Gyánima.

[1] This account is epitomised from H. Strachey's journey in 1846, he left the Larcha, October 1st: Therm. sunrise, 14°; 9 A.M., 29°; 2nd, 7 A.M. 20°; 3rd, 9 A.M. 30°; 4th, 6 A.M. 20°. See further KAILÁS; MANASAROWAR.

Choktán. The origin of the Karnáli is close by near Chujiya in the valley which it enters a few miles to the south-west. The end of the valley appeared from this place to turn southward, where it entered the head of the Puráng valley and the view in this direction was terminated by a húge snowy mountain, the last and greatest of a chain which comes from the south-eastward along the left bank of the Karnáli, the Huniya name of it is Momonangli or Nimo Nangil; the Bhotiyas call it Gurla and the Hindus name it Mandhátagiri, having an elevation of 25,360 feet above the level of the sea. Owing to its eminence and its height exceeding any other peak within a radius of forty miles, it is one of the most striking objects in this part of the Himálaya. Beyond Gurla we came on Chujiya Tol (15,250 feet), a favourite resort of herdsmen and shepherds from Puráng, consisting of a side ravine running from north-west to south-east into the main valley, then descending again a very considerable hill, part of which was very steep and stony, the path reaches a summit of which the elevation is 17,000 feet.

The most remarkable part of the prospect from this eminence was the Indian Himálaya, the view of which extended from Gurla on the extreme east, as far westwards perhaps as Laphkhel, including all the outer part at east of the snowy range of Byáns, Dárma, and Juhár, and from this elevated station the spectator seems almost to be looking down upon the top of the snowy range, which here loses much of its apparent height, but with an increase of visible breadth in the same proportions, so that the range assumed something of the appearance of a wide field or sea of snow tossed into a thousand heaps in the most gigantic confusion. The northern face of the Himálaya thus seen from a commanding station, though still much broken into ravines, peaks and ridges, exhibits a much more gradual and flatter general declivity, with smoother and rounder slopes than the vast rocky walls of the southern face, and a much greater expanse of snow, which extends down to the limit of congelation in a regular line, scarcely broken here and there by a few more rocky prominences. The snow line here is perhaps between fifteen and sixteen thousand feet, much about the same as on the south side. A zone of one thousand feet or so must be allowed for the variation of the line according to the nature of the subordinate slopes, their individual exposures, and degree of proximity to the open country northward, in which direction the snow line appeared to Captain Strachey to be somewhat higher, as was noticed at Bháwiti. The termination of the Himálaya in the table-land is generally abrupt and well-defined, and the transition to a new climate seems to be similarly well-marked and sudden. The great bulk and height of the mountainous range appears to arrest the progress of the Indian rainy season, and to the northward, consequently, there is so little free moisture in the upper air, that snow does not fall in sufficient quantities to withstand the heat of the sun for many days together, at very considerable elevations: hence the line of snow on the mountains that rise from the northern table land is on an average perhaps two or three thousand feet higher than on the Indian Himálaya, though the atmospheric temperature on the former may possibly be colder at equal heights.

Snow-line.

From this summit the path descends again as much as it came up from Chujiya Tol, but more gradually into a level valley with flat bottom, varying from one to three furlongs

Amlang.

in width, winding between steep rounded hills for many miles together along which it continued to where a small stream of water made its appearance. The name of this valley is Amlang : a little further on the stream turns northward, and drains into the Gyánima water, which is visible from Láma-Choktán. Elevation of Amlang 15,250 feet. Turning eastward Amlang is left over the low hills on the right side of the valley : a mile or two of undulating ground leads into another valley similar to Amlang ; a mile further on leads into a third valley or a second branch of the last, like the others, but open at both ends, and a mile down, divided into two branches going eastward and south-eastward, the road following the former. Beyond this the path follows a course north of east and crossing the stream again which runs into Rákas Tál ascends rising ground at the foot of lofty hills on the other side.

Rákas Tál.

Here is the first view of Rákas Tál, a mile or two to the south-east further on, at a point opposite the middle of the eastern shape a side, a full view of the lake is obtained. It is in long irregular crescent some seven miles wide east and west, and twenty miles long north and south. A lofty range of hills stretch north-westward, separating the lake from the head valley of the Karnáli. These hills rise abruptly out of the water in bold rocky banks with many deep inlets, promontories, and one or two small islands of the same character. This part of the lake is altogether so irregular in outline that it could hardly be defined without detailed survey and close inspection of every point. The eastern shore is bounded by shelving ground and low hills, the south end being a good deal recessed, eastward, into a deep bay, the middle part advancing, further westward in a rocky bank of moderate height, and the north end sweeping round to the westward, as far as could be seen, with a margin of green grassy plain from the back of which the Gángri mountains rose in dark steep slopes. The western shore of the lake was undulating ground or low hills at the foot of steep and lofty ones. The water of the lake was of the clearest, brightest blue, reflecting with double intensity the colour of the sky above, and the northern horn of the water, overshadowed by the wall of mountain rising above it, was darkened into a deeper hue, partaking of the fine purple colour that distinguishes the rocks of Gángri. The path now inclined northward, the hilly bank over which it came subsiding into level shore sloping down to the water's edge. The path lies over this for two or three miles, the water half a mile to the right, and as far to the left Tsabgya Gumba is passed, but is not visible under the steep hillside, this is the only *Gumba* on the banks of Rákas Tál. The shore of the lake here showed marks of variation in the water-level to the extent of a few feet, ground which appeared to have been lately inundated, now half dry and swampy, was covered with a very thick efflorescence of soda (or some such salt), which must arise from the soil, as the water was quite pure and sweet. The course now about northward passed under a small rocky headland, which advances close to the water's edge, and then entered on another low flat, bearing marks of occasional inundation in places ; here two promontories of low clear land appear stretching into the lake for a mile or two, one from the south and the other from the north, covered with green grass, high hills being still on the left. The northern horn of the lake now rapidly narrows to the extreme north-western point, where the lake ends in swampy ground interspersed

with puddles of water. This is or ought to be, the exit as the ground evidently slopes down to Changchung where the river is visible.

At the south-eastern corner of Rákas Tál, which forms a large bay under the foot of Gurla, there is or was a Dharmsála called Lagan-Tunkáng, and a rather marine-looking beach with concentric ridges and shingle showing variations in the water level to the extent of six feet perhaps above the present surface; the shingle and sand are mostly granitic and the former partially rolled; only the southern half of Lagan is visible from Tunkáng, the northern part being hidden by the projecting hilly banks which occupy the middle part of the lake's eastern shore. The extreme breadth of the lake at this its widest may be eleven miles or thereabouts, equal to the middle breadth of Mápán. There is no island in Rákas Tál with a monastery on it.

Rámganga (eastern), a river which has its source in patti Bichhla Dánpur in Kumaon, in a horseshoe-shaped depression of a very mountainous tract. To the north the ridge culminates in a peak 19,554 feet above the level of the sea: on the east, the ridge runs south with a series of peaks ranging from 16,321 to 9,814 feet (to the west of Ganagarh on the Milam route) and which form the water-parting between it and the Gori: on the west the ridge has also a southern direction and in the upper portion separates the Rámganga from the Kuphini and lower down in north latitude 30°-4′ from the Sarju. The Rámganga forms the boundary southwards between Bichhla Dánpur and Tallades, and is crossed by the road from Bágeswar to Milam by Ganagarh at Bhakúnda. Further south it forms the boundary between Pungaraun and Baráon of Gangoli and Máli of Síra, and a road proceeds along its left bank to Pithoragarh crossing at Naya Thal, the road from Almora to Askot. The whole course from Bhakúnda is nearly due south and further on it forms the boundary between Bárabisi, Seti Talla, Waldiya Malla, and Ráwal on the left bank and Pungaraun and Bel on the right bank. In this portion of its course it is crossed by a suspension bridge on the road from Gangoli Hát to Báns. It receives numerous torrents on either bank during its course, but none of any great importance. The name Rámganga is often given to the united stream of the Sarju and Rámganga from their confluence at Rámeswar to Pacheswar, where it joins the Káli.

Ramganga (western), a river which takes its rise in patti Lohba of parganah Chandpur in Garhwál, in north latitude 30°-5′ and east longitude 79°-18′ is also known as the Ruhut or Ruput.

The drainage area of its head-waters is very clearly marked by lofty ridges. To the north the ridge extends in a direction slightly north-east from the

northern peak of the Dudutoli ridge (10,188 feet) to the Diwali-khál (7,010 feet) on the Karnprayág road. To the west is the Dudutoli range and on the south its continuation almost due east by the Malkhori pass (8,042 feet) to the exit of the Rámganga near Mehalchauri. On the east the ridge extends from Diwali by Kandal (8,553 feet) and Kánpur (9,522 feet) then comes Byánsu above Ríthiya and Thajkharak (7,8[illegible] feet) to Sungarkáli. The western ridge separates the drainage area of the Rámganga from that of the Nyár, a tributary of the Ganges ; the northern ridge separates it from the Bharárigár, a tributary of the Pindar and the eastern ridge also from the Pindar valley. The streamlets converge on the south-eastern corner of the basin and at Gaonli below Ríthiya form a considerable river in the rains, which escapes by a narrow chasm (now bridged) from the Lohba valley near Mehalchauri. The Lohba valley is about eight to eleven miles in breadth from the eastern to the western watershed and ten miles in length from north to south, so that the drainage waters as seen at Mehalchauri represents the surplus moisture of one hundred square miles of hill country from rainfall and springs. There is no other outlet for these waters than the Ramganga, and Mehalchauri would seem admirably adapted to form a station for registering the volume of water carried off from a given area of typical hill country while raingauge stations here and at Lohba and Silkot would sufficiently indicate the rainfall in its valley, upland, and mountain divisions. Mehalchauri bridge lies in latitude 29°-58′-50″ and longitude 79°-22′-10″ at an elevation above the sea of 4,280 feet.

From Mehalchauri the Rámganga has a course for a short distance due east through the eastern range by a deep and narrow gorge, emerging from which it bends to the south-east, receiving the Khansar-gadh on the left bank. Thence sweeping around the south-eastern continuation of the Lohbagarh range it receives the Turag Tal river and then takes a south-westerly course by Ganai, receiving the Kotlar-gadh rising on the western declivity of Dunagiri on the same bank and the Khansar-gadh from Panuwa-khal on the opposite bank. Numerous hill-torrents pour into it from either side further down. The story goes that the gods once intended to make Dwára their home, and they resolved to make there a *prayága* or confluence of the Rámganga and the Gagás. The order was issued to the streams to unite their waters and the Gagás passed on the message to the Rámganga to come up the Bairti valley from Ganai and break down the barrier that separates the Dwára flat from the Bairti valley. The messenger was a *semal* tree, and when it come to Chhani it said : "I am very tall and can see a long way off, and there is no necessity for my giving myself the trouble of going any further ; surely the Rámganga must come down by Panuwa-khal." In the meantime the Rámganga had turned north-east at Mehalchauri and came round and passed by Ganái without being stopped. The roar of the waters aroused the *semal*, and he called out to the Rámganga to come his way to Dwára. But he received the reply "too late" and the Gagás was obliged to proceed lower down to meet the Rámganga and abused his messenger, hence the phrase—

"*tu semal ke rebariya hai.*"

"you are a messenger of the *semal* sort," applied to those who neglect their instructions.

The course from Ganai leads to Bhikiya-ke-Sain, in latitude 29°-42′-8″ and longitude 79°-18′-20″ where the Rámganga receives the Gagás on the left bank.

Further south-west the united streams of the Hingwa and Bino rivers fall into it on the right bank and in latitude 29°-34′-40″ and longitude 79°-8′-25″, the considerable stream of the Mandhal river on the same side. Hence the Rámganga enters the Bhábar flowing nearly due west through the Pátli Dún, where it receives among others the Paláin and Sona rivers on the right bank. Then turning south-eastwards, the Rámganga bursts through the outer range corresponding to the Siwaliks of the Dehra Dún and enters the plains near the Kálagarh fort south of the Kálagarh peak (2,319 feet) in the Bijnor district, about ninety miles from its source.

Rámgárh or Rámgár, a parganah of Kumaon contains three pattis, *viz.*, Rámgárh, Malla and Talla and Agar. The assessment at each settlement was as follows :—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	*Current.*
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1,944	1,946	2,317	1,969	1,859	1,901	1,912	1,914	2,304

The incidence of the land tax on the total area amounts to Re. 0-14-1 per acre, and on the cultivation to Re. 1-8-9 per acre. The assessable area comprises 2,610 *bísis*, of which 1,122 are culturable and 1,488 are cultivated (18 irrigated). The population at settlement numbered 2,683 males and 2,474 females. This parganah lies between the Gágar and Lohukot ranges, both uniting eastwards in the Moteswar peak. The upper parts belong to Agar, and there is hardly any *talláon* or lowlands capable of irrigation.

The Sauns or Sons occupy the Agar villages whence they are called Agaris. Their special avocation is mining, in which they are engaged throughout the district. Of late years, however, this has given place to work on roads and at the new sanitaria and in the Bhábar. The climate is fairly salubrious, but the soil is poor. The Agaris remain at home from May until November and then disperse to their several occupations elsewhere. The people of Rámgárh pay revenue according to the capability of their villages. The inhabitants of the picturesque village of Náyakána on the Almora road are Pátas and Náyaks—the former the dancing-girls of Kumaon, and the latter a class originally springing from that corrupt source, and afterwards, by intermarriage with other inferior tribes, becoming a separate clan, only occasionally recruited by births from Pátas. The daughters born to Náyaks, however, themselves recruit the members of the frail sisterhood. The Náyaks have, during the British rule, been the chief clearers of the Chhakháta Bhábar, and as elsewhere remarked their villages of Haldwáni, &c., are highly flourishing. The people of Borhakot and Jutia also possess tracts of land in the Bhábar. The parganah now contains 26 estates comprising 31 villages. The mines of the Agar patti were formerly leased for very large sums, they now yield less than Rs. 100 a year. The principal mines are found in Agar, Ghurkhâni, Khúní-kháya, Kumnai, Purbárha, and Páli.

Rámgár Malla, a patti of parganah Rámgár in Kumaon, is bounded on the north by Ramgár Talla ; on the west by Dhaniya-

kot; on the south by Mahryúri Talli, and on the east by Agar. This patti was separated from Rámgár at the recent settlement. The statistics of the Malla and Talla pattis may be shown thus :—

Rámgár.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.*		Current.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Malla ...	504	14	32	457	440	567	570	535	850	784
Talla ...	280	1	188	90	195	254	222	247	283	245

The incidence of the existing assessment on the whole area is Rs. 1-1-0 per acre in the Malla and Rs. 0-14 per acre in the Talla patti. The incidence on cultivation is Rs. 1-8-4 and Rs. 1-4-10 respectively. In 1872-73 the iron mines were leased with the Agar patti at Rs. 92 a year. The patwári resides in Sunkiya.

Rámgár Talla, a patti of parganah Rámgár in Kumaon, is bounded on the north by Kotauli Malli; on the south by Rámgár Malla; on the east by Agar, and on the west by Dhaniyakot. This patti was separated from Rámgár at the recent settlement. The statistics are given under the Malla patti.

Rámgár, a travellers' rest-house on the upper road from Naini Tál to Almora, 12 miles from the former and 20 miles from the latter, is situated in latitude 29°-26′-8″ and longitude 79°-35′-40″, at an elevation of 5,872 feet above the level of the sea in parganah Rámgár in Kumaon. There is also a *dharmsála* or rest-house for native travellers, to which water is conveyed by a series of wooden gutters from the Gágar pass above.

The population of the neighbourhood migrate to the Bhábar during the cold and hot seasons, and are on this account better off than the majority of hill-men. In the valley about two miles from the bungalow are the remains of the iron works erected by Government and now belonging to the Kumaon Iron Works Company constructed for smelting the rich iron ore of the valley which belongs to the hæmatite and magnetic varieties. Some account of this project has been already given.[1] The march from Naini Tál to Rámgár is one of the most beautiful and characteristic in the outer Himálaya. The road leaving the margin of the lake ascends a few hundred feet to avoid a formidable landslip caused by the rotten

[1] Gaz. X, 262.

shales of which the mountains along the north side of the lake are composed. It then passes under the peak of Lariya-kánta and above the barracks of Kála-khán winding amongst the great grassy spurs and deep wooded khuds which run down from the northern prolongation of Lariya-kánta. Passing by Bhuwáli it reaches the Ningláth stream by a steep descent. From the baniya's shop there, a steady rise along an outlying spur of the Gágar range for four miles to the Gágar peak (7,855 feet) and pass, whence a descent of two miles leads to Rámgár bungalow. The botany of this march and indeed all the way to Almora has been investigated and recorded by Major Madden in one of his delightful papers.[1]

To Piura.

From Rámgár to Piura bungalow, ten miles, the road first dips one thousand feet, to the level and comparatively open valley of the Rámgár stream; a mile or so further on, the road crosses to the right bank of the stream by a pretty iron suspension bridge, beyond which and some 200 feet above the road is the Náyakána village, very pretty and neat, the residence of that curious class who have been described amongst the castes in Kumaon. From the bridge there is a somewhat long ascent to the gallery, where the road keeps for two miles along the south-east face of the hot and bare Lohakoti or Pathargarhi mountain, which rises fully a thousand feet higher (7,535 feet). About Náyakána commences the mica-slate formation so general thence northwards; on the gallery it is blended with strata of blue crystalline limestone, the whole dipping north-east. At the east end of the gallery is the Deodara pass on the *col* which joins Pathargarhi to Mukteswar. Here Almora is first seen, backed by the snows, but the view is soon lost, for the road now makes a second dip into the glen of the Deodar stream; this rises in Mukteswar and joins the Kosi above Munrus. Its slopes exhibit a rich expanse of cultivation about Kilaur, Banjgaon, and Tikari in contrast with the gloomy forests of the Gágar. From the valley there is a long ascent to the Laldana Bináyak where there are the remains of a small fortlet belonging to olden days. About east and some 200 feet lower is the Piura (*q.v.*) travellers' rest-house.

Rámnagar, the chief market of the Kota Bhábar in Kumaon, is situate in north latitude 29°-23′-35″ and east longitude 79°-10′-9,″ at an elevation of 1,204 feet above the level of the sea on the right bank of the Kosi, distant 12 miles from Kota; 6 miles from Dhikuli; 12 from Mohán; 20 miles from Seti; 36 miles from Khairna, and 56 miles from Almora: It is the great lowland mart of western Kumaon as Haldwáni is for midland and Barmdeo for eastern Kumaon. In 1881 the population numbered 3096 souls, chiefly Baniyas. Before 1850, Chilkiya was the principal mart for forest and hill produce, but it has since then quite given place to Rámnagar. There is a police-station, dispensary and forest bungalow here.

The routes to and from Rámnagar being the most important in the tract lying along the foot of the hills, we give them here. From Barmdeo to Chhíni

[1] J. A. S. Ben. 1848, page 414.

Chauki Dharmsála six miles, for the first five miles the road follows straight across the numerous streams flowing from the foot of the hills into the Sárda, and has many ascents and descents. The Duán or Chhíni stream flowing from the ravines west of Bastiya is crossed close to the encamping-ground. From hence to Dogári, six miles, the road crosses the bed of the Kulauniya and numerous small *sots* or torrents with some difficult places for laden carts when there is rain. There is a Chauki and Dharmsálas here. Jaulasál is the next stage, nine miles; the road as usual and indeed all along crossing numerous beds of torrents, here and there where sandy very difficult and requiring some rough repairs. There are native rest-houses here. To Chorgaliya (1,018 feet) nine miles: here there is a small bazaar, reached after crossing the Nandhaur (Dewa) and its numerous offshoots. Next stage is Haldwáni (*q.v.*) twelve miles, then Chaunchala six miles, and Káladhúngi six miles. From Káladhúngi the stages are Bailparao nine miles, and Rámnagar six miles. Proceeding westwards we have Dhela seven miles, the name of the village and river (unbridged) passing by Himmatpur and Sawaldeh. Next comes Láldhang (1,117 feet) with a Chauki three miles from Dhela crossing an unbridged stream. Next comes Jhirna, four miles, after crossing the Phíka, the western boundary of the Kumaon Bhábar. Three miles further on is Dháron with a Chauki (*q.v.*) whence roads branch off to all parts of Garhwál. Five miles on the Rámganga is crossed at Kálagarh by Lakrighát, where there was once a fort. The next stage is Kála-Shahíd or Kálu-Sayyid (1,008 feet) seven miles; then Pákhrán nine miles; Saneha eight miles; Haldukháta nine miles; Láldhang, a bazaar and chauki, ten miles; Chíla thirteen miles, and Kankhal three miles. The entire road from Rámnagar to Chíla is unmetalled, but is passable for laden carts from November to the rains, crossing the *sots* by improvised log-bridges. This is the main road for the traffic from the east including Nepál to the Ganges, and is also largely used by pilgrims passing to the great assemblies at Hardwár. It is also used by the timber merchants for exporting the produce of the forests to the plains, and is continually crossed by the roads leading into the hills direct from the plains.

Rangor, a patti of parganah Chaugarkha in Kumaon, is bounded on the north by Dárún; on the west by Lakhanpur Malla and Sálam Malla; on the south by the latter patti and the Panár river separating it from the pattis of Káli Kumaon; and on the east by Bel of Gangoli. Portions of this patti were transferred to Dárún at the recent settlement. It is drained by the Panár river, a tributary of the Sarju falling into it on the left bank above Rámeswar. The assessable area comprises 4,156 *bísis*, of which 1,660 are culturable and 2,496 are cultivated (139 irrigated). The assessment in 1815 amounted to Rs. 429: in 1820 to Rs. 1,005, in 1843 to Rs. 1,108, and is now Rs. 2,481, which falls at Rs. 0-9-7 per acre on the total assessable area and at Rs. 0-15-11 per acre on the cultivation. Upwards of 688 *bísis* are outside the revenue-roll as *gúnth* and waste. The population at the time of settlement

numbered 4,283 souls, of whom 1,899 are females. The copper mines at Chimmakholi are unworked, but the iron mines at Ukhalgarha, Bhandoli, and Pálikúri are leased with the other mines of Chaugarkha in Dárún, Kharahi, and Lakhanpur, and yield a revenue of Rs. 625 a year. The patwári resides in Gauli, and there is a school in Chaukholi.

Ranigadh, a patti of parganah Chandpur in British Garhwál, is bounded on the north by Nágpur Bichhla; on the south by Taili Chandpur and Kandársyún; on the east by Taili Chandpur and Bichhla Nágpur; and on the west by Dhanpur, from which some villages were received at the recent settlement. The patwári of Dhanpur residing in Panái collects the land revenue. The patti lies along the left bank of the Alaknanda river, below its confluence with the Pindar. The hills are generally steep, and the tops are covered with oak and pine. There are copper mines at Dhanpur at the head of the valley just outside the patti, Pangur, Bameli, and Sibyadíb Andikholi, all at work, and an old mine of the same metal at Lawári. Dhanpur has also a lead mine. The iron mines of Kharsayi, Koti, and Sukund are also worked. These are all situate on the Dhanpur range crowned by the peaks of Dobri (9,862 feet), Gwánagarh (9,821 feet), and Pandobri (9,859 feet).

Rawal, a patti of pargana Shor in Kumaon, is bounded on the north by Waldiya Malla; on the west by the eastern Rámganga river; on the south by the Sarju, and on the east by Waldiya Talla. The Lohughát and Pithoragarh road passes through Gún, in this patti, where there is a travellers' rest-house. Thákil, on the east, rises to 8,161 feet. The assessable area comprises 1,515 *bísis*, of which 902 are cultivated (253 irrigated) and 613 are culturable. The land tax yielded Rs. 166 in 1815, Rs. 343 in 1820, Rs. 455 in 1843. The present assessment amounts to Rs. 1,010 and falls on the total assessable area at Rs. 1-0-6 per acre, and on the cultivation at Rs. 1-7-6 per acre. The population at settlement numbered 1,955 souls, of whom 892 were females. The patwári resides in Bhatyúra, and there is a school in Tharkot.

Rawatsyún, a patti of pargana Bárahsyún in British Garhwál, is bounded on the north by the Alaknanda river, on the east by Katholsyún, on the south by Idwálsyún, and on the west by Bangarhsyún. The patwári of this patti, resident in Margana, collects the land

revenue of pattis Bangarhsyún and Sitonsyún also ; the three aggregated in 1864 Rs. 2,811 for land revenue and *sadábart*, and Rs. 64 for *gúnth* paid by 5,346 souls. This patti contains a small strip of land along the left bank of the Alaknanda, mostly level or of easy slope, and is traversed by the road from Hardwár to Srinagar.

Regaruban, a patti of pargana Káli Kumaon in Kumaon, is bounded on the north-west by the Panár river, a tributary of the Sarju, which separates it from patti Rangor of pargana Chaugarkha; on the north-east by the Sarju river, which separates it from Bel of Gangoli; on the east by Gúmdes; on the south by Chárál Malla; and on the south-west by Sai-Bisung. The assessable area comprises 3,813 *bisis*, of which 1,380 are culturable and 2,433 are cultivated (63 irrigated). The land tax amounted to Rs. 910 in 1815, to Rs. 1,100 in 1820, and to Rs. 1,514 in 1843, and now stands at Rs. 2,467, which falls on the acre of cultivation in the assessable area at Rs. 1-0-2, and on the acre of the total area at Rs. 0-10-4. The population at settlement numbered 2,310 males and 1,851 females. The villages that lie between Chárál and the Sarju are for the most part situate on high ridges and slopes. The climate is good; but from the poorness of the soil the coarser grains, like *manduwa*, predominate. The patwári resides in Báparu, and there is a school in Regaru.

Ringwársyún, a patti of parganah Chaundkot of British Garhwál, is bounded on the north by Mawálsyún ; on the south by Jaintolsyún; on the east by Kimgarigár ; and on the west by the Bárahsyún parganah. The Páori and Dhárun road passes through this patti, which is drained by a branch of the Machhlád river forming its northern boundary. The patwári of this patti resides in Gajera, and has also charge of the collection of the land-revenue in Mawálsyún and Jaintolsyún, which in 1864 aggregated Rs. 2,392 *plus* Rs. 71 for resumed *gúnth* and revenue-free lands.

Ríthagár, a patti of parganah Chaugarkha in Kumaon, is bounded on the north by Kharáhi; on the west by Syúnara Malla ; on the south by Lakhanpur Talla and Dárún; and on the east by the Sarju river which separates it from Athgaon of Gangoli. Portions of Dárún and Kharáhi were transferred to this patti at the recent settlement. The two eastern roads from Almora to Bágeswar pass through it on

either side of the Jarauli peak (6,200 feet). This patti occupies the valley of the Jillar-gadh, a tributary of the Sarju, which it joins on the right bank near Dúngari-lekho. The patwári resides in Khákar. The lower part near the Sarju is covered with a luxuriant tropical vegetation, and is hot and unhealthy. During the rains the people are much troubled by the *múra*, a small fly that leaves an irritating mark like a bruise wherever it bites, and if scratched the bite becomes a sore of a leprous appearance. The assessable area amounts to 1,634 *bísis*, of which 770 are culturable and 863 are cultivated (200 irrigated). The assessment in 1815 was Rs. 74; in 1820 was Rs. 405; in 1843 was Rs. 444; and at present is Rs. 1,124, which falls at Rs. 0-11-0 per acre on the total assessable area and at Rs. 1-4-10 per acre on the cultivation; about 176 *bísis* are held as *gúnth* outside the revenue-paying area. The population at the time of settlement numbered 1,258 souls, of whom 548 were females. The upper part of the patti near Bilauri and Chhauna has a good climate and some fine cultivation, and here the Joshis of Jhijhár have a settlement. Both these villages belong to Ráotela Rájpúts connected with the Chands. The hamlets depending on Naugáon comprise a large portion of the patti, of which some fourteen villages belong to Jageswar temple. Portions are admirably adapted for the cultivation of tobacco, turmeric, and sugarcane.

Sabali, a patti of parganah Malla Salán in Garhwál, is bounded on the north by Bangársyún and Dhaundyálsyún; on the south by Khátali; on the west by Saindhár and on the east by Chaukot of Kumaon. Khátali, Sábali and Saindhár occupy the valleys of the Eastern Nyár and Khátali river and have fairly good villages. The population of Sábali in 1858 numbered 2,330 males and 2,135 females. The patwári usually resides in Chandoli and has also charge of Bangársyún. A fairly elevated range runs down the western portion in a south-easterly direction culminating in the peaks of Motikhál (7,688 feet), Tilkani (6,421), under which there is an unworked iron mine at Chorkhanda, and Agargarh (6,102 feet). There is a school at Bangár.

Sahasradhara, or 'spring of a thousand sources,' lies in a glen to the south of the Dún water-parting ridge a little east of Rájpur on the route to Mussooree in Dehra Dún. The water here

has a fall of about thirty feet and leaves an incrustation of lime on all it touches. Particles thus accumulating for centuries have formed a projecting ledge, and thus a sort of cave, from the roof of which falls a perpetual shower that turns every leaf and blade of grass coming into contact with it into a sort of petrifaction. One of the lumps thus formed in a smaller cave adjoining resembles the linga emblem of Siva and is tended as such by Brahmans from Nágal. There is also a sulphur spring. Here, as in the glen of the Baliya and Nihál below the Ayárpátha cliffs at Naini Tál, the clay slate and limestone rest on beds of aluminous shale and white gypsum which becomes of an exceedingly hard texture. Gypsum appears under analogous circumstances at Jutog near Simla and under the Krol rocks near Subáthu. In the former place, as in the Lohakoti hill, the limestone becomes crystalline in contact with the micaceous rocks. Immediately opposite the stalactitic caves at Sahasradhára a passage into the hills up a torrent leads to the gypsum beds, which consist of two strata separated by a reddish argillaceous schist, the whole lying horizontally without apparent dip. The quality of the gypsum varies as much as the colour from a compact crystalline mass to a loose powdery and arenaceous soil: the colour varies from an almost translucent white to a dirty grey. About four miles north at Salkot is another bed of gypsum.

Saindhar, a small patti or sub-division in parganah Malla Salán of British Garhwál, lies in separate scattered patches between the Eastern Nyár river on the south and the Machhlád on the north.

Saknyána or Shaknyána or Saka country, a *jágir* or fief situate on the north-east frontier of Dehra Dún, is bounded on the north-west by the Bandal river and on the south by the Song.

The tracts known as Saknyána, Deori and Athur, with the villages of Kot-Padiyár and Sonár in the hills and Bájawála in the Dún, were granted to Siva Rám by the Garhwál Rája for services rendered, subject to an annual *bhet* or offering of Rs. 500 *kachcha*. On the conquest of Garhwál by the Gorkhális the grant was resumed, but on the conquest by the British, the fiefs were restored[1] to Siva Rám by a *parwanah* of Mr. Fraser confirming them as heretofore held, but this was interpreted as free of revenue for life. Siva Rám died in 1818, and the Garhwál Rája demanded that the *jágír* should be resumed or the revenue be paid as before. Hari Rám, the heir of Siva Rám, appealed to the British Government, and Mr. Traill recommended the grant in perpetuity of the portion in the hills should be confirmed to Káshi Rám and Hari

[1] Because of some alleged services: see Williams' Memoir, p. 178.

Rám at a revenue of Rs. 200 a year. The Government refused to interfere, and on Hari Rám declining to accept the terms offered by the Rája of Garhwál the *jágír* was settled with other members of the same family.[1] At the same time their claim to independence as regards Tíhri was disallowed, as they had never been in the position of independent chieftains nor ever had separate civil or police jurisdiction. Subsequently it was resolved to restore them to their possessions as *jágírdárs*, subject to the payment of offerings on certain occasions to the Rája of Garhwál. Káshi Rám dying without issue, his nephew Devi Datta claimed to succeed him as his adopted son and devisee by will.[2] On this quarrels arose and the Court was obliged to interfere, and eventually Hari Rám and Devi Datta succeeded. The internal administration was regulated by an order of the Governor-General in Council by which all persons accused of offences specified in Regulation X of 1817 section 2 should be committed by the Assistant in charge of the Dún to stand their trial before a Commissioner appointed under that law, while the police arrangements rested with the *jágírdár*. Since the repeal of the above Regulation it is difficult to say whether British Courts have cognizance of these offences or not.

Sálam Malla, a patti of parganah Chaugarkha in Kumaon, is bounded on the east by Rangor; on the south by Talla Sálam; on the west by Mahryúri-Dolphát and Lakhanpur Malla, and on the north by the latter patti. It was formed from Sálam at the recent settlement and lies on the right bank of the upper portion of the Panár river. The patwári usually resides in Kandára; the statistics of the Malla and Talla pattis may be shown thus:—

Sálam.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated*		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
					Rs.	Rs.	Rs.	Rs.		
Malla ...	2,565	2,086	53	426	866	1,245	1,437	2,326	2,207	1,952
Talla ...	3,408	2,700	56	651	1,219	1,770	2,017	2,958	2,407	2,157

In the Malla patti 126 *bísis* are held free of revenue and in the Talla patti 58 *bísis*. The assessment falls at Re. 1-1-5 per acre of cultivation in the former and at Re. 1-1-2 per acre in the latter. Six villages were received from Lakhanpur and one was transferred to Chálsi at the recent settlement.

[1] From Commissioner, 28th December, 1818; 31st January, 1824; to Commissioner, 30th January, 1819; 31st August, 1824; 19th November, 1824. [2] Major Young's letters of 15th December, 1829 and 28th July, 1830, quoted by Mr. Williams.

Sálam Talla, a patti of parganah Chaugarkha in Kumaun, is bounded on the north by the Panár river, which separates it from Sálam Malla; on the west by Mahryúri-Dolphát; on the south by Malli Rau and on the east by Rangor. This patti was formed from Sálam at the recent settlement. For statistics see *Sálam Malla*. The patwári lives in Jainti, where there is a school.

Salán Malla, or Malla Salán, a parganah in Garhwál, has ten pattis or sub-divisions, each of which is separately noticed, *viz.*, Bangársyún, Dhaundyálsyún, Gujaru, Iriyakot, Khátali, Kolágár, Meldhár, Sábali, Saindár and Taláin. The assessments at each settlement may be shown as follows :—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	1864.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.
4,829	5,342	6,043	6,959	8,341	8,748	9,076	8,990	11,916

The statistics of the current settlement show that the parganah consists of 285 estates comprising 411 villages and containing a total assessable area of 15,096 acres, of which 14,212 are cultivated. The mill-rent amounted to Rs. 26, and the land-revenue to Rs. 11,916, of which Rs. 305 are alienated in *gúnth* and *muáfi*. The land-revenue falls on the total assessable area at Rs. 0-12-7 per acre, and on the cultivation at Rs. 0-13-5 per acre. The population in 1841 amounted to 16,132, of whom 7,300 were females; in 1853 to 29,471 (14,626 females); in 1858 to 30,388 (14,730 females); in 1872 to 38,618 (19,353 females) and in 1881 to 41,125 (21,044 females). Malla Salán is bounded on the north by Chaundkot; on the east by Kumaon; on the south by Talla Salán and on the west by Ganga Salán. It lies to the north of the outer range of hills and is drained by the tributaries of the Eastern Nayár. There is a large and dense population for the hills and industrious, too, rearing large quantities of red pepper and cardamoms.

Salán Talla or Talla Salán, a parganah of the Garhwál district, is subdivided into eleven pattis each, of which is separately noticed, *viz.*, Bhábar, Bijlot Walla and Talla, Búngi, Badalpur Malla and Talla, Kauriya Walla and Palla, Painún and Síla Malla and Talla. The assessments at the various settlements of the land-revenue have been as follows :—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	1864.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,642	4,146	4,632	5,385	6,893	7,113	7,411	7,183	11,475

At the current settlement the parganah contained 435 separate mahâls or estates, comprising 580 villages, having a total assessable area of 15,487 acres of which 14,334 were cultivated. The mill-rent amounted to Rs. 4 and the land-revenue to Rs. 11,475, of which Rs. 283 were alienated in *gúnth* and *muáfi*. The population in 1841 amounted to 13,343 souls, of whom 5,894 were females; in 1853 to 20,324 (12,862 females); in 1858 to 26,064 (12,720 females); in 1872 to 36,165 (17,426 females); and in 1881 to 37,924 (19,055 females). Talla Salán is bounded on the north by Malla Salán, on the west by Ganga Salán; on the south by the Bijnor district and on the east by Kumaon.

Kauriya and Badalpur lie chiefly to the north of the first range of hills. In Badalpur there are some fertile and populous villages resembling those near Almora. The climate of Painún in the Mandhál valley is very malarious and generally the pattis to the south are still covered with *sál* and bambu forest conserved by the forest department including the Kotri and Pátli Dúns. Still crops of ginger, turmeric, tobacco and capsicums are grown in the clearings and afford valuable resources to the cultivators. In his report on the settlement in 1840 Mr. Batten remarks that Bijlot, Búngi and Páinún and the *Dúns* below gave him considerable trouble and required much care. "A decrease of revenue and a total remodelling of the village leases were found necessary. Painún is situate in the valley of the Mandhál river, the climate of which is almost as bad as that of the Tarái. Wild elephants abound and commit great depredations on the crops in the rainy season. Tigers also are numerous and kill both men and cattle. Síla is situate on both sides of the Koh river. Large portions of it are waste, and some of the villages are unfavorably placed on the border of the *sál* forests, which here, as in Badalpur, begin to take the place of oaks and pines and other alpine vegetation. The Pátli Dún is traversed by the Rámganga, as that river approaches the plains, from which the Dún is separated by a steep sandstone range, resembling in almost every respect, save in the fewness and difficulties of its passes, the Siwálik range between the Ganges and the Jumna. The quantity of flat land is very small indeed in comparison with the hills and ravines, and the forests of *sál* and bambu (the timber of which is floated down the Rámganga in rafts) are plentiful and valuable." The first triennial settlement was made for one year only and up to 1822 was included in the farm of forest produce. Permanent villages were then established and a regular settlement was made with the cultivators, but owing to the climate it was difficult to procure them. Accordingly in 1840 the settlement was made with Padam Singh Negi at Rs. 275 (a reduction of Rs. 100 having been allowed). He had an hereditary claim to the lease of this tract; and though his right to the zamindári had not been previously admitted, he was then granted all lands which he might redeem under a proprietary tenure. Four of the villages included in his lease are situated outside the lower range in the gorges of the passes. The Kotri Dún, properly so called, is merely a small uncultivated valley, with very rich pastures, situated in the midst of the lower hills near Kotdwára. With the exception of granite the rocks are of the

same description as in Chaundkot, but all are succeeded by sandstone in the *Dúns* and lower ranges.

Salán Ganga or Ganga Salán, a parganah in Garhwál, has nine pattis or sub-divisions, each of which is separately noticed, *viz.*, Dobryálsyún or Dhángu Malla, Dhángu Talla, Karaundu Walla and Palla, Langúr, Udepur Malla, Bichhla and Talla and Ajmer. The assessment of the land-revenue from the conquest to the present day was as follows:—

1815.	1816.	1817.	1820.	1823.	1828.	1833.	1840.	1864.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
5,099	5,699	6,177	7,835	8,957	9,508	9,649	9,618	14,031

The statistics of the current settlement show that there are 395 estates comprising 499 villages and containing a total assessable area amounting to 22,277 acres, of which 20,965 are cultivated. The mill-rent amounted to Rs. 60 and the land-revenue to Rs. 14,031, of which Rs. 218 are released in *gúnth* and *muáfi*. The entire land-revenue falls on the total assessable area at Rs. 0-10-0 per acre and on the cultivation at Rs. 0-10-8 per acre. The population in 1841 numbered 16,538 souls, of whom 7,324 were females; in 1853, 28,078 (13,853 females); in 1858, 30,265 (14,778 females); in 1872, 40,877 (20,329 females); and in 1881, 44,632 (21,955 females). Ganga Salán is bounded on the north and west by the Ganges; on the south by the Bijnor district, and on the east by parganahs Malla and Talla Salán.

Dhángu, as its name in the hill language implies, is rocky and rugged, especiall in the neighbourhood of the Ganges, which here forces its way through steep precipices; some of the villages are small and poor, and a slight reduction of the revenue in 1840 was thought expedient. Kuraundu and Langúr are chiefly in the vicinity of the Koh, both of which had their irregular boundaries rectified at the recent settlement. Langúr is remarkable for its two fortresses of that name on the crest of a high precipitous ridge, which separates the Koh from the Nyár river. Here the last Garhwál Raja, before retreating to Dehra Dún where he was killed, made the last vigorous defence of his country against the invading Gorkhális, who, were before Langúr Garh for some years. Ajmer and Udepur, though in their lower parts very jungly, contain in the heart of the parganah some very fine villages, and the country is not unlike the fertile tract near Bhímtál in lower Kumaon. The Udepur hills, covered with *sál* forests stretch into the Chandi Dún and are separated from the Dehra Dún by only a strip of level ground and the Ganges: the produce includes turmeric, ginger, red pepper and cardamoms: in the winter the people are engaged as bambu-cutters and wood-sellers. The market of Bidasani is situated in Udepur and the landholders find also a near market for their grain, turmeric, &c., at Kotdwára and Hardwár. The geological formation is the same as in Talla Salán.

Sarju, or 'ganger,' from Sansk '*sri*,' to go, a considerable affluent of the Káli river, to which it often gives its name. From the confluence at Pacheswar in Káli Kumaon, the united stream is known as the Sarju or Káli as far as Barmdeo, and as the Sárda or Ghágra to its confluence with the Ganges in the Ballia district at the extreme southern point of the North-Western Provinces.

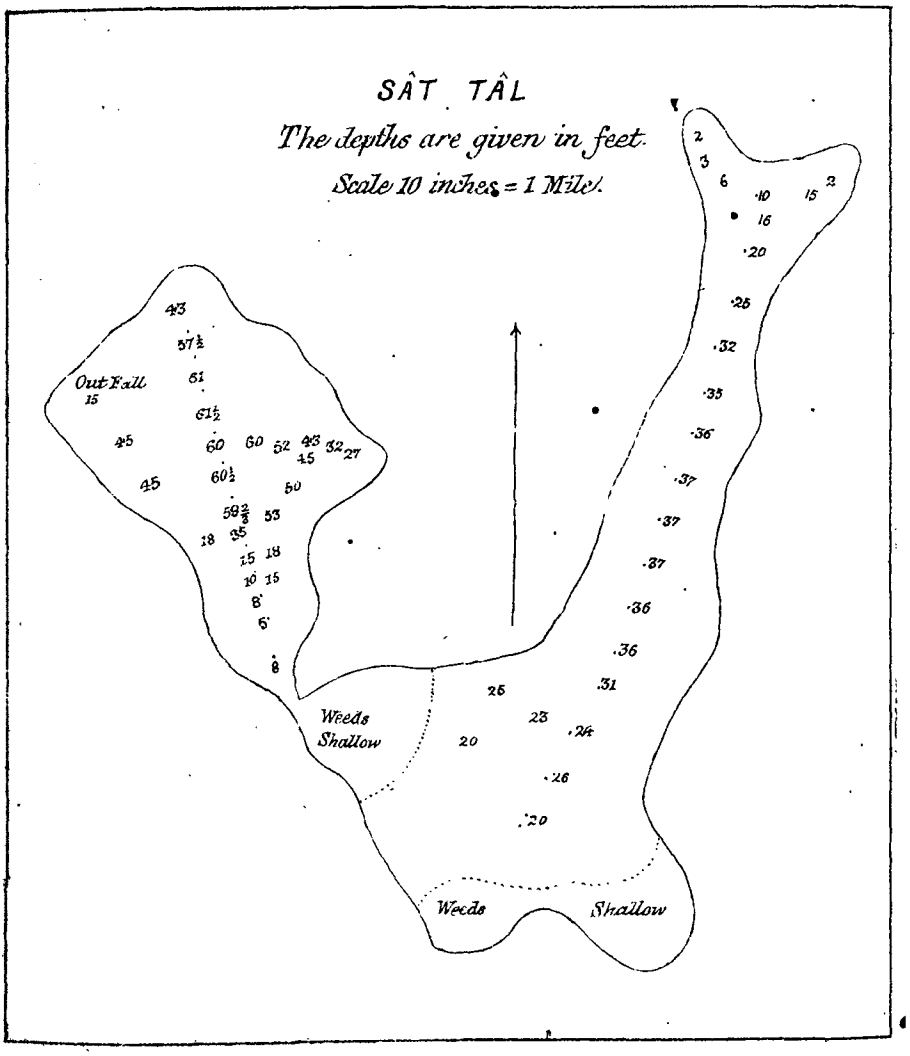
The Sarju rises on the southern slopes of a ridge in patti Malla Dánpur of Kumaon and is separated on the east from the sources of the eastern Rámganga and on the west from the sources of the Kuphini or eastern branch of the Pindar by spurs leading down from the mass culminating in the Nandakot peak. The sources are situate in north latidude 80°-6-'50" and east longitude 30°-1'-30", in the depression within which the village of Jhundi is situate, and are crossed by a ford at Waichhám on the track between Supi and Námik. The breadth at Supi, eight miles from its source, is about fifteen yards, and in May there is only about two feet of water. On the west a lofty chain of mountains running south-west separates it from the Pindar river, and on the east a similar chain separates it from the eastern Rámganga. The height of the latter ridge is so elevated that even in May snow rests on the more lofty summits. About the source also snow rests until late in the year. At Súpi the bed of the river is 5,659 feet above the level of the sea. A few miles below Súpi the bed narrows to twelve yards with a depth of twenty-four inches, and a few miles still lower down or fifteen miles from its source it is forty-five yards wide and twenty-seven inches deep. The valley here is tolerably wide and gives spance for numerous villages on either bank. Near its source it is crossed from Kháti in the Pindar valley by a road leading to the Bhotiya tract of Munsyári.

It then holds a south-westerly course, receiving many minor streams, and enters the patti of Talla Dánpur in latitude 29°-59' and longitude 77°-59", where it receives on the right bank the Kanal-gadh and a short distance lower down the Pungar-gadh thirty-one miles from its source. About a mile lower down it receives the Lahor river on the right bank from Patti Malla Katyúr, and hence taking a south-easterly direction passes four miles lower down by Bágeswar at an elevation of 3 143 feet above the level of the sea, receiving on its right bank the Gumti or Gomatti river. Further on much of the drainage of the Gangoli pargana falls into it on the same side by the Bhadrapati-gár and that of Chaugarkha by the Gat-gadh, Jalair-gadh, Bhaur-gadh, Alaknandi and Saniaun-gadh. Thirty-five miles below the confluence of the Rámganga with the Gúmti it receives the Panár river on the same side and about three miles further down on the left bank the Rámganga (eastern) at Rámeswar in latitude 29°-31'-25" and longitude 80°-9'-40", with an elevation of 1,500 feet above the level of the sea. About ten miles above its confluence with the Panár, sixty miles from its source, the average breadth is about fifty yards and the drift four and a half to five miles an hour, with a depth in May of eight feet and fordable in December (*Weeb*). Here it is a most impetuous and roaring torrent dashing over the rocks with the greatest force and noise and casting the spray about in all directions. A few miles below Rámeswar, whence it is indifferently called the Rámganga and Sarju, the river is crossed by an iron suspension bridge on the road between Lohughát and Pithora-

garh in a glen from which the hills on either side rise very steeply and are thickly clothed with pine forest. From Rámeswar it forms the boundary between the Shor and Káli Kumaon parganahs in a south-easterly direction, and after a course of twelve miles falls into the Káli on the right bank at Pachheswar in latitude 29°-27′ and longitude 80°-18′. About a mile above this confluence the river is fordable in the dry season and about eighty yards in breadth and four and a quarter feet deep with a drift of about four miles an hour. The length of the river from its source to its confluence with the Káli has been estimated at eighty-two miles. The confluences at Bágeswar with the Gúmti; at Rámeswar with the Rámganga and at Pachheswar with the Káli are sacred *prayágas* or junctions which have periodical semi-religious assemblies in their honor. The local Brahmans say that the Sarju could not force its way through the mountains until the present channel was formed by a great devotee by virtue of the power acquired by his austerities. They also identify the form of Siva worshipped here with the Baba Adam of the Musalmáns and his Sákti with Mama Huwa. They also state that the most destructive tigers in the neighbourhood are men in the form of animals, a belief like the lycanthropy of the Greeks and the loup-garou of the French. A large fish called *gúnch* or fresh-water shark (*Bagarius Yarrellii*) is found in the Sarju from Bágeswar downwards. It is said to attain a length of six feet, scaleless and with teeth like a dog.

Sát Tál, a collection of lakes in parganah Chhakháta of the Kumaon district about nine miles from Naini Tál, turning off from the Rámgár road at Bhuwáli and three miles from Bhím Tál. These are the most picturesque if not the grandest of the lakes of this district. They are formed by landslips in the basin of the range in which they lie. The first lake met with is a deep black tarn wooded to the water's edge and connected by an underground passage with the fourth. Passing further into the basin a second very small pool is met with close to the third at the irrigation embankment; thence the path winds round the third to the fourth, which is the largest and is a very considerable sheet of water about 1,100 yards in length by 350 in breadth. All the three larger ones communicate with each other and the water-level has been raised considerably by the embankment, which makes these lakes a reservoir for the supply of water to the Bhábar during the dry season from February onwards. Below the embankment to the south is another small lake, the fifth, and beyond this in the bed of the stream two lakes now dried up: hence the name '*Sát Tál*,' or 'seven lakes.' The surplus drainage joins the Baliya flowing from Naini Tál and eventually the Gaula, an affluent of the Rámganga.

The following outline map is from soundings made by Mr. Yule of Bhím Tál :—



Saun, a patti of parganah Shor of Kumaon, is bounded on the north by Pattis Mahar and Nayades; on the west by the Chandrabhága river, and on the south and east by the Káli river, which separates it from Nepál. The principal villages lie along the valley of the Chandrabhága river and in the table-land among the hills between it and the Káli, where the village of Mádh is

situate. The peak of Diwáli on the left bank of the Chandrabhága attains an elevation of 6,460 feet above the level of the sea and Dhian on the right bank of the Káli rises to 5,132 feet. The assessable area comprises 1,621 *bísis*, of which 612 are culturable and 1,008 are cultivated (226 irrigated). The land-tax yielded Rs. 501 in 1815, Rs. 752 in 1820 and Rs. 858 in 1843. The existing assessment amounts to Rs. 1,476 and falls on the total assessable area at Rs. 0-14-7 per acre and on the cultivation at Re. 1-7-5 per acre. The population at settlement numbered 2,619 souls, of whom 1,400 were males. The patwári resides in Chaupakhiya, where there is a school.

Seti Malla, a very small patti of parganah Shor in Kumaon, lies to the west of Pithoragarh in the same valley and separated from the remainder of Seti by the range (6,898 feet) crossed by the road to Báns. Bajeti and its hamlets and Pandegaon are the only villages of any importance in this miniature patti. The statistics and history are given under Seti Talla. The revenue is paid into the *peshkári* at Pithoragarh.

Seti Talla, a patti of parganah Shor in Kumaon, is bounded on the north by patti Bárabisi of Síra, from which it is separated by the Kálápáni river; on the west by the Rámganga river; on the south by pattis Waldiya Malla and Bichhla and on the east by Kharáyat. The road from Pithoragarh to Almora passes through this patti from east to west, crossing the stream from Báns by a bridge and the Rámganga by an iron suspension bridge. There is a traveller's rest-house at Báns in latitude 29°-36′-44″ and longitude 80°-11′-5″. To the north as far as the water-shed of the Kálápáni the country is highly cultivated: Asurchuli, with a temple here, attains a height of 6,990 feet above the level of the sea and Iriyárikot 6884 feet.

Seti.	Assessable area in bisis.				Assessment in rupees.				Population.	
	Total.	*Cultivated.*		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
Malla...	265	48	138	78	117	179	176	260	162	182
Talla ...	1,630	476	583	569	250	424	509	1,558	1,109	930

The incidence of the present land tax on the total assessable area is Rs. 0-15-8 per acre in the Malla patti and Re. 0-15-4 in the Talla patti: on the cultivation the rates are Re. 1-7-6 and Re. 1-7-5 per acre respectively. The patwári resides at Báns; there is a school in Dhárgaon.

Shor or Sor, a parganah in the Káli-Kumaon sub-division of the Kumaon district, is bounded on the north by parganahs Síra and Askot; on the east by the Káli river, which separates it from Nepál; on the south by parganah Káli-Kumaon, and on the west by parganah Gangoli. It at present contains eleven pattis, *viz.*, Kharáyat, Kharakdes, Mahar, Nayádes, Ráwal, Seti-Malla, and Talla, Sáun, and Waldiya Malla, Bichhla, and Talla, each of which is separately noticed. The principal village is Pithoragarh, which lies near the centre of the parganah, just where a spur of the Chandák ridge, forming the water-parting between the Káli and Rámganga, enters the valley of Seni-Shor. The Kálapáni river divides patti Seti from parganah Sirá on the north; south of this lies Waldiya Malla, while the Talla Patti of Waldiya runs across to Thákil. Ráwal trends towards Rámeswar and Saun runs between the Chandrabhága and Káli as far as Pacheswar. The central plateau between Thákil and Dhuj is occupied by the villages of Seti-Malla, Mahar, Kharakdes, and to the north-west Kharáyat.

The road from Almora passes through Báns in Seti, where there is a travellers' rest-house, and thence up the fertile valley of Chána to Pithoragarh. The Lohughát road passes south under Thákil with a bungalow at Gún, whence there is a magnificent view down to the Sarju and Rámganga at Rámeswar. This road is in direct communication with Barmdeo and also by Debi Dhúra with Almora. The road to the Byáns and Dárma passes runs northwards by Dhuj through Askot. On the east there is a road to Jhúlaghát, where the Káli is spanned by an iron suspension bridge erected at the joint cost of the British and Nepálese Governments, but a guard on the Nepál bank forbids egress in that direction to the traveller. Shor contains some of the fairest scenery in eastern Kumaon and may justly be termed its garden. Thákil especially is thickly wooded and contains some remarkable trees and plants.

The assessment at each settlement was as follows:—

1815.	1817.	1818.	1820.	1822.	1828.	1833.	1843.	*Current.*
Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,536	4,002	4,593	5,495	6,141	6,638	6,657	6,687	14,113

The present assessment[1] falls on the whole assessable area at Re. 0-15-9 per acre and on the cultivation at Re. 1-7-11 per acre. The total revenue area comprises 14,287 *bísis*, of which 4,860 are culturable and 9,426 are cultivated (3,479 irrigated), 204 *bísis* are held free of revenue by temples. The population at settlement numbered 10,012 males and 8,938 females, and in 1881 there were 13,081 males and 12,435 females. There are 280 mahals or estates comprising 363 villages.

In Mahar, Waldiya and Saun sugarcane, tobacco and cotton are far from uncommon products, while cereals are abundant. Amongst jungle products Shor is famous for its honey and *phalel* or *phalwa*, a kind of vegetable butter produced from the fruit of the *Bassia butyracea*, a handsome tree abounding in this parganah. The troops in Pithoragarh and the Bhotiyas when passing through during the cold weather consume most of the surplus grain. Sir H. Ramsay writes:—"This parganah has improved very much, though not quite in the same way as Gangoli. It was pretty well cultivated at the last settlement. Prices have risen immensely; and in trying to ascertain the causes of the rise I was usually told that rupees had become cheap, which means that the people have become rich and are not compelled to sell at low rates. Since I came to the district I remember wheat selling at a maund and barley at 70 seers for the rupee at Pithoragarh. Of late years wheat has not been procurable there at 20 sers; not because there is no wheat, but because the Bhotiya traders purchase it at a higher rate and 15 to 16 sers of flour per rupee is now the common price." There is a small import trade with Doti in *ghi*, wax, honey and *phalel* and an export of cotton, metals, cloth and European goods by the Jhúla-ghát, also called Júaghát from its being so narrow that an ox with a yoke could not pass it. At the earlier settlements it was found that the lands in this parganah was measured with a *jhúla* containing six *bísis*. The latter varied with the quality of the soil, requiring on an average 40 *nálís* or two *bísis* of seed to the *bísi* in the most fertile and best watered lands. In lands of inferior quality the *bísi* required a proportionately greater quantity of seed, though the produce in both is the same.

History.

In 1820 there were six pattis containing 351 villages. These were left untouched at the settlement in 1843, and in 1871 the present pattis were formed from the older ones. Shor, Síra and Askot formed until a late period a portion of the Nepál state of Doti and are still known as Doti in the western parts of Kumaon. One of the arguments used by Ranjor Singh Thápa against peace at any price with the British in 1815 was that with eastern Kumaon Doti would fall to the conquerors. Some account of the Shor Rajas and the conquest of this tract has already been given.[2] "The inhabitants," writes Batten, are,

[1] On the earlier settlements see Traill to Board, 30th June, 1821. [2] Gaz. XI, 496, 527-530, 537, 541, 553, 568, 570.

though brave and active, a fickle and factious race to whom the following couplet has been applied:—

'Shor harám-khor, báp bhurawa cheli mai tor;
Shor ki náli katyúr kau mano: joi jaithúli khasam jaináno.'

'Shor eats the bread of dishonour; the fathers are panders, the daughter remains in the father's house.

The peck of Shor is a quart in Katyúr: the wives are the great ones, the husbands of no account.'

Another verse runs:—

'Shor ke náli, katyúra máno; jayají túli kasamjí nano,'

'An ell in Shor is an inch in Kátyúr: but the wife is master in Shor.'

A *mána* is a quarter of a *náli*, but the Shor *náli* is smaller than the Katyúra *mána*, thus reversing the order of things. Seni Shor is the name given to the undulating valley within which Pithoragarh is situate. It was also called Nandhúkúr Shor from the nine principalities into which it was divided, each with its own fort:—Unchakot, Bhatkot, Bilorkot, Udepurkot, Dungarakot, Sahajkot, Bamuwakot, Deodárkot and Dúnikot. Until lately the *Dharabandi* or feud between the Márás and Phartiyáls was exceedingly bitter in this parganah."

Síla Malla, a patti of parganah Talla Salán of British Garhwál, is bouuded on the north by Langúr and the Kauriya pattis; on the east by the Badalpur pattis, on the west by Síla Talla and on the south by the Chokum Dún. There are several fine villages about Síla, but south of Byánsi the country consists of a mass of ravines and torrents utterly unculturable. There are schools at Kota and Píra. The patwári who resides in Muhara collects the land-revenue of Kauriya Palla and Badalpur Talla also, the aggregate of the three pattis in 1864 was Rs. 2,463.

Síla Talla, a patti of parganah Talla Salán of British Garhwál, is bounded on the west by Ajmer; on the north by Langúr; on the east by Síla Malla, and on the south by the Kotri Dún. The only large village is the mart of Kotdwára separately noticed. The patwári of Ajmer, who resides in Ghota, collects the land-revenue of this patti also.

Silaur Malla, a patti of parganah Páli Pachháon in Kumaon, is bounded on the north by Silaur Talla and Bichhla Dora; on the west by the former patti and Kakalasaun Walla; on the south by Malli Doti and on the east by the same patti and Athágúli Walla. This patti was separated from Silaur at the recent settlement. The eastern boundary run up close to the station of Ráníkhet; on the west the boundary is the lower waters of the Galna stream to the Gingári (5,627 feet) and Upraikhet

(6,512 feet) peaks. The statistics of the Malla and Talla pattis may be shown thus :—

Silaur.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
		Cultivated.								
	Total.	Irrigated.	Dry.	Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
Malla ...	2,699	34	2,134	531	1,152	1,627	1,869	2,584	2,094	1,934
Talla ...	2,754	35	2,380	339	965	1,577	1,843	2,606	2,179	2,062

The incidence of the land tax on the total assessable area in the Malla patti is Rs. 0-15-4 per acre and in the Talla patti is Rs. 0-15-2 per acre : on the cultivation it falls at Rs. 1-3-1 and Rs. 1-1-3 per acre respectively in each patti. The patwári resides in Malota, where there is a school.

Silaur Talla, a patti of parganah Páli Pachhaon in Kumaon, is bounded on the north by the Gagás river, which separates it from Walla Nayán and Talla and Bichhla Dora ; on the west by Kakalasaun Walla ; on the east by the Malla patti, and on the south by the latter patti and Kakalasaun Walla. This patti was separated from Silaur at the recent settlement. The patwári resides in Pípalkoti, where there is a school.

Simalkha, a patti of parganah Dhaniyakot in Kumaon, is bounded on the north by the Kosi river ; on the west by Uchakot ; on the east by Dhaniyakot, and on the south by Kota Talla and Malla. Simalkha, situate on the left bank of the Kosi, gives its name to the patti and is the only considerable village in it. The total assessable area is only 356 *bísis*, of which 67 are culturable and 289 are cultivated. The land-revenue rose from Rs. 241 at the conquest to Rs. 346 in 1820 and Rs. 367 in 1843 ; it is now Rs. 360, which falls at Rs. 1-4-8 per acre on the total assessable area and at Rs. 1-9-5 per acre on the cultivation. The population numbered 678 souls, of whom 329 were females. The patwári resides in Mallagaon, where there is a school.

Sipti, a patti of parganah Káli-Kumaon in Kumaon, is bounded on the north by Pharka, Gangol, Sui-Bisung and Chárál-Malla; on the east by the last-named patti, Chárál-Talla and Pálbelon-

Malla; on the west by Asi, and on the south by Pálbelon-Talla. The assessable area comprises 2,452 *bísis*, of which 917 are culturable and 1,534 are cultivated (124 irrigated). The land-tax yielded Rs. 545 in 1815; Rs. 754 in 1820; Rs. 984 in 1843; and now stands at Rs. 1,793, which falls on the whole area at Rs. 0-11-8 per acre, and on the cultivated acre at Rs. 1-2-8. The population at settlement numbered 1,551 males and 1,256 females. It was formerly united with Gangol as one parganah, and appears now to be fairly populated, though a good deal of culturable land exists. The coarser grains are the staple and rice and wheat are not much grown, but here the people mainly consume only the poorer grains, so that the price is almost as high as the better grains in other pattis. The patwári resides in Báyal and there is a school at Dyártoli.

Síra, a parganah of the Kumaon district, is bounded on the east by Askot; on the south by Shor; on the west by Gangoli and on the north by the Bhotiya parganahs of Juhár. The Rámganga (western) forms the western boundary and the Kálápáni or Bichol river the southern. It contains five pattis, *viz.*, Athbisi Malla and Talla, Bárabísi, Díndíhát and Máli. Bárabisi lies to the south; then comes Athbisi; to the north-west Máli and to the north Díndíhát, all of which are separately noticed.

The northern portion of Síra lying near the Gori is exceedingly wild and rugged and characterised by deep glens and high mountains with little or no cultivation. The route from Bágeswar to Askot by Thal passes through this parganah and a road also connects Thal with Shor by Bichol and Sachling. Near the former road are the celebrated temples Dukal, Bhágaling and Sírakot. The fort at Sírakot was once the residence of the Malla branch of the Sahi dynasty of Doti, but on the conquest of Síra by Ratan Chand of Kumaon a portion of the reigning family removed to Askot, where they are at present represented by the Rájbár of that place. Díndíhát was the great market-town of the old Síra state. Athbisi owes its name to its having been set apart for the separate maintenance of the Rání, while Barabisi formed the portion of the State lands assigned for the military and other public charges. Under the Chand Rajas Sírakot became the State prison, and it was here that Díp Chand, the last of the legitimate Chands, was murdered by command of his base-born cousin, Mohan Singh. McLelland in his geology of Kumaon mentions the prevalence of cretinism and goitre in the upper valleys of this parganah.

The history of the assesment of the land-revenue may be shown thus:—

1815.	1817.	1818.	1820.	1823.	1828.	1833.	1843.	Current.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1,905	2,199	2,383	2,760	3,011	3,120	3,223	3,205	5,999

The present assessment falls at Rs. 1-6-1 per acre on the whole assessable area and at Rs. 1-13-6 per acre on the cultivation. The whole area liable to revenue amounts to 5960 *bísis*, of which 2,336 are culturable and 3,623 are cultivated (1,758 irrigated): 251 *bísis* are held free of revenue by temples. The population at the present settlement numbered 4,215 males and 3,629 females and in 1881 there were 5,859 males and 5,550 females. In the earlier settlements up to 1840 Síra and Askot were taken together. In 1821 there were 238 revenue-paying villages: there are now 166 *mahálś* or estates containing 236 villages. The prevailing tenure is *bhai-bhant* or (*bháyáchara*).

The copper mines of Síra are mentioned in the mineralogical notice and would seem to require merely better methods of working and more workmen to yield a fair return of ore, but the distance from a market would still render the enterprise one of doubtful value commercially. In 1840 these mines were leased for Rs. 85 a year and in 1884 they yielded nothing The Khasiyas of the ordinary agricultural class decline to labour in them, while the Agaris are slowly disappearing or taking to other occupations.

Sirgur, a small patti in parganah Chandpur of British Garhwál, is bounded on the west by Síli-Chandpur; on the south by Lobha; on the north by the Pindar river, separating it from Kapíri and Karákot of parganah Badhán; and on the east by Pindarwár, from which it is separated by the Agargár stream. It was formed from patti Chandpur in 1864, when two villages were added to it from Chandpur, and eight from patti Pindarwár. The patwári of Síli-Chandpur, resident at Kewar, collects the land-revenue. This patti runs from the right bank of the Pindar to the water-parting of the Rámganga. There is an iron mine at Swau-Gheliya.

Sitonsyún, a patti of parganah Bárahsyún in British Garhwál, is bounded on the north by Bangarsyún and Idwalsyún; on the south by Banelsyún; on the east by Gangawársyún and on the west by Kandwálsyún. Sitonsyún occupies the valley of the Siton, an affluent of the Randi.

Someswar, a village and temple and traveller's rest-house in patti Borárau Walla and parganah Bárahmandal of Kumaon is situate in north latitude 29°-46′-40″ and east longitude 79°-38′-55″, at an elevation of 4,572 feet above the level of the sea, 18 miles west of Almora by Hawalbág. There is a traveller's bungalow, here.

Srínagar or Sirínagar, a large village in patti Katholsyún of parganah Dewalgarh of the Garhwál district, is situate in latitude 30°-13″ and longitude 78°-48′-15″, seven miles from the head-quarters station of Páori, at an elevation of 1,758 feet above the level of the sea.

The town is situated in a hollow or valley on the left bank of the Alaknanda river about three miles long and about half to three quarters of a mile broad, the hills sloping down close to the town on the southern side. Viewed from above the hollow or valley consists of two long flats, one some 50 to 80 feet broad, extending along the base of the inclosing mountain above the other, on which the town is built. This valley has apparently been excavated by the river and left dry by the stream flowing further to the northward, and leaving between its present margin and the original bank a space of land stretching three or four furlongs south of the town, and now laid out in small fields and enclosures, among which mango trees are thinly scattered. The aspect of the surrounding mountains is very barren, and in the dry season their scanty vegetation is soon parched up, except in a few places. On a mass of rock about 30 feet high in the middle of a bank of shingle close to the town are the ruins of a fakir's hut formerly connected with it; and on the opposite side are several hamlets situate along the base of the mountain. The site has somewhat the shape of the segment of a circle, of which the river's bank is the chord. The principal street, which contains the bazar, is about half a mile long and tolerably broad, but the others are so narrow that two persons can scarcely pass abreast. The houses are built of small stones and are usually two stories high with shelving roofs covered with slates. The lower stories are allotted for stores or shops, the families occupying the upper. A great deal of wood-work is used in the houses themselves, part of the walls and the arched verandahs, called *tibári* and *dandyali*, are of wood; the houses of the better classes are little distinguished from those of others, except by a narrow balcony. A gloomy air is given to the town from this uniformity, which probably resulted in former times from the desire of the wealthier inhabitants to avoid attracting the notice of extortionate rulers. The residents are principally some of the older and more important families of the district, many of whose members are in the Government service, priests of the numerous temples which are scattered over the place, and Baniyas, the majority of whom have come from Najíbabad, in the Bijnor district, and taken up their residence here.

Rája Ajaipál of the Chand dynasty, who was also the founder of the present Garhwál line of Rájas, commenced the palace the ruins of which are still extant, but it was completed by his successors. The town is said at one time to have had a large population and to have been of much greater extent than at present. But many years before the British rule—the exact date is not known—a flood of the Alaknanda swept away at least one-third of it, and the place ceased to be the residence of the Rája since 1803, when Pradhaman Sáh was expelled and subsequently fell at Dehra in fight with the Gorkhális. In the same year an earthquake nearly destroyed the town; so that when Raper visited it in 1808 not above one house in five was inhabited, the rest being heaps of ruins. At the time of Moorcroft's visit in 1819 it had a few manufactures of coarse linens and woollens, and he notes that it had not even then recovered the effects of the earthquake and inundation of 1803, the only street being the bazar, about half a mile long.[1] The number of the houses in 1821 was 562, of which 438 were inhabited by Hindus, ninety-six by Doms and twenty-eight by Musalmáns. The census of 1858 gave a total of 1,835 inhabitants, of which 949 were males. During the season of pilgrimage the population receives a vast addition. In 1865 the permanent population was 1,951, in 1872 was 2,040, and in 1881, was 2,100.

[1] As Res. VI. 336: I. G.

The town, though the population has increased, is not a flourishing one, and its decay has been hastened by the removal of the Rájá's residence to Tíhri and the damage done year by year by the river, which would appear to be in course of time able to destroy the whole site

Trade.

Behind the principal street are some isolated buildings and temples, some of which extremely well built. The public buildings are the tahsíli, the Sadr Amin or Subordinate Judge's court, the school and dispensary. None of these have the slightest architectural pretensions. Since these public offices have been placed here there has been some little improvement in the town; but the trade even now is very insignificant, consisting for the most part of cotton piece-goods, salt, tobacco, cooking utensils of copper and brass and grain for local wants.

Were it not, however, for the influx of pilgrims who come yearly in large numbers to the shrines of Kedarnáth and Badrináth and who generally rest a few days to visit the few small temples at the place itself, the trade of Srínagar would otherwise almost cease, as a new mart at Kotdwára at the foot of the hills has risen of late years, and the people prefer going direct there, as they can purchase all that they require at cheaper rates. Owing to the smallness of the place no municipality exists; but with the sanction of Government the people have assessed themselves in order to defray the expense of the police and conservancy establishments. The older buildings comprise numerous temples and the ruins of the residence of the former Rájas. Of the former the chief is that of Kamaleswar, which is supported by villages assigned both in Garhwál and Tíhri for the purpose. Some of the temples are fo massive stone beautifully fitted together, but they have very little architectural beauty.

The palace of Rája Ajaipal must have once displayed considerable architectural pretensions and extent, as its ruins even now cover some acres of land. It was built of large blocks of black stone laid in mortar and had three grand fronts each four stories high, with projecting porticoes profusely ornamented in the lower part with elaborate sculptures. The style employed is of no decided school. It is said that no woodwork whatever was used in its construction, and this is attested by the fact that the portions still remaining have none; the windows even to the latticing being of stone, while the only doorway left is of stone carved so as to exactly resemble wood. These doors are very massive and heavy and it must have taken immense labor to put them up, and this has given rise to a legend to the effect that after thousands of men had failed to place the stone door-posts, the Rája by prayer and fasting did so by himself in one night, but having been seen doing this by a female servant he slew her, so that no one might hear of it. Of the older residence only one, the western wing, is standing and it is almost in ruins. The building, especially over the doorway, is massive and quaintly ornamented. There is another wing also standing to the south, but this is of quite modern date and is, though well built, of very simple structure. There is also said to have been an underground passage to the river by which the females went to bathe, and there are the remains still of a bath or tank in the enclosure, the water for which was brought from a stream at least four miles off. The engineering difficulties to be overcome in doing this must have been very considerable as a ridge of the hill intervenes, but there is no doubt of its having been done, as the traces of the channel are still visible.

The dispensary is a large well built-building under the charge of an Assistant Surgeon and is the chief of several erected along the pilgrim route and maintained

out of the *sadábart* funds for the benefit of sick pilgrims, who are tended and helped on their way to their homes. As Srínagar and its neighbourhood, owing to its low position, is not at all healthy, this dispensary is also of much local benefit. The river, owing to its numerous rapids, is not navigable. On the right bank of the river and opposite the town is the village of Ránihát, containing a temple sacred to Rája Iswara, at which the dancing-girls who form the majority of the population devote themselves to prostitution by abjuring their kindred and anointing their heads with oil from a lamp placed before the altar of that deity. At a short distance beyond it is the fane of the idol Rasi Devi, or the god of love. In the hot season the temperature at Srínagar is high, as the elevation is not considerable. There are a great number of mango and other plains trees about the town which owing to the great heat flourish.

Sui Bisung, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Rangor of Chaugarkha; on the west by Gangol; on the east by Regarubán and Chárál-Malla, and on the south by Sipti. The whole assessable area comprises 2,320 *bísis*, of which 962 are culturable and 1,358 are cultivated (187 irrigated). The land revenue amounted to Rs. 660 in 1815, to Rs. 969 in 1820, and to Rs. 1,445 in 1843. The existing assessment stands at Rs. 1,942, which gives a rate on the whole assessable area of Rs. 0-13-4, and on the cultivation of Rs. 1-6-10 per acre. The patwári resides in Karnkaráyat, where there is a school. The population at settlement numbered 1,684 males and 1,615 females.

Sult Malla, a patti of parganah Páli-Pachhaon in Kumaon, is bounded on the north by Khátali of Garhwál and Talla-Chaukot of Kumaon; on the west by Gujaru of Garhwál; on the south by the Palla and Walla pattis, and on the east by Talla-Chaukot and Palla-Nayán. This patti was formed from Sult at the recent settlement. The patti is drained by the Mainkot-gadh, rising under Khamekgár (7,152 feet), and the upper waters of the Naihel river.

The statistics of the Sult pattis may be shown thus :—

Sult.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.*		Culturable.	1815.	1820.	1843.	Current.	Males.	Females.
		Irrigated.	Dry.							
Malla ...	3,175	13	2,764	397	606	732	959	2,888	2,810	2,630
Palla ...	2,926	51	2,616	258	626	1,071	1,266	2,949	2,188	2,024
Talla ...	3,888	157	3,110	620	993	1,296	1,543	3,566	3,042	2,746
Walla ...	2,761	53	2,472	289	936	1,350	1,352	2,838	2,725	2,621

The assessment falls on the cultivated acre in each patti as follows:—Malla, Re. 1-0-8; Palla, Rs. 1-1-8; Talla, Rs. 1-1-6; Walla, Re. 1-2-4 per acre. One village was received from Chaukot-Talla at the recent settlement. The patwári resides in Munarh, where there is a school.

Syunara, a subdivision of parganah Bárahmandal in Kumaon, divided at the last settlemennt into two parts, the Malla and Talla pattis, lies north and west of Almora between Binsar and Háwalbágh. The statistics of the two pattis may be shown thus :—

Syúnara.	Assessable area in *bisis*.				Assessment in rupees.				Incidence per acre on		Population.	
	Total.	*Cultivated.* Irrigated.	*Cultivated.* Dry.	Culturable.	1815.	1820.	1843.	Current.	Total.	Cultivation.	Males.	Females.
									Rs. a. p.	Rs. a. p.		
Malla ...	2,159	275	1,115	768	464	721	1,168	2,428	1 2 0	1 11 11	2,224	1,886
Talla ...	2,618	79	1,991	548	728	1,154	1,522	3,021	1 2 6	1 7 4	2,406	2,153

Both the Syúnaras were formerly under one Rája who resided in the Khagmara-kot and then in Syúnara-kot and was absorbed in the middle of the sixteenth century. The patwári of the Malla patti lives in Tákula and of the Talla patti in Háwalbág. There are schools in Satráli, Sukár and Háwalbág. In 1844 over 60 villages were transferred from Talla Syúnara to Khaspurja and one was received from the Malla patti and six from Borárau.

Taláín, a patti of parganah Malla Salán, is bounded on the north and west by parganah Chaundkot; on the south and east by other pattis of Malla Salán, including Kolagár and Saindhár. There is a school and a copper mine at Pokhara and an iron mine at Khandwára. This patti comprises numerous small valleys drained by the sources of the Machlád river. It was ruined by the Gorkhális, who drove most of the people away to sell as slaves, and the rest fled to the plains, but it has since recovered and, strange to say, the people have not benefited by their misfortunes, for they are even more litigious than the people of Chaundkot. The patwári resident in Kánde collects also the land-revenue

of Gorársyún, which in 1864 amounted to an aggregate of Rs. 2055.

Talla Des, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Chárál Talla and Gumdes; on the west by the former patti and Pálbelon Malla and Talla; on the south by the Bhábar, and on the east by the Káli river, which separates it from Nipál. The assessable area comprises 4,639 *bísis*, of which 1462 are culturable and 3,176 are cultivated (18 irrigated). The land-revenue yielded Rs. 1,331 in 1815, Rs. 1,408 in 1820, Rs. 1,716 in 1843, and now gives Rs. 3,191, which falls on the whole area at Rs. 0-11-0 and on the cultivated area at Re. 1-0-1 per acre. The population at settlement numbered 2,811 males and 2,271 females. This patti is intersected by the Ladhiya river and is also drained by the Káli.

"Many of the villages near the latter river are inhabited by families related to the people of Doti on the opposite side. Hence, although the heat and excessive jungle of the valley prevent much extension of cultivation, the emigration of discontented persons from the border mountains keep up the requisite population, whose profits from the sale of their ginger and turmeric are considerable. One great inducement which brings over Dautiyáls to this patti is the acknowledgment by the British Government of hereditary shares in occupied land, whereas, on the other side, the State considers the property in the soil as entirely its own." The patwári resides in Támali, where there is a school.

Tallades, a patti or sub-division of parganah Juhár in Kumaon, was created at the recent settlement. It comprises the western portion of the old patti of Talla Juhár on the upper course of the eastern Rámganga river. It contains 37 estates separately assessed to land-revenue, comprising 92 villages with a population at the time of settlement numbering 2,877 souls, of whom 1,391 were females. The principal villages are Chámi, Dor, Hokura, Húpúli, Náchni, Urkhet, Sini and Tejam: see further article BHOTIYA MAHÁLS. The patwári resides at Tejam and there is a school in Dor.

Talli Ráu, a patti of parganah Dhyáni Rau in Kumaon, is bounded on the north by Pattis Malli Rau and Asi: on the west by Chaugadh; on the south by the same patti and the Tallades Bhábar, and on the east by Pábelon Talla. At the recent settlement Chaugadh was separated from the patti. The statistics of this patti are given with those of MALLI RAU. There is a school at Chaunda and Ramak. The patwári lives in Majhera.

Tarái, a district of the Kumaun Division, is bounded on the north by the Kumaun Bhábar (*q. v.*); on the south by the Pílíbhít, Bareilly and Morádabad districts and the Rámpur State; on the east by the Sárda river and on the west by the Bijnor district. It comprises a long and narrow strip of country running for about ninety miles along the foot of the hills with an average breadth of about twelve miles and having an area of 589,359 acres or 920·8 square miles. The Tarái district comprises seven parganahs[1]:—Káshipur, Bázpur, Gadarpur, Rudarpur, Kilpuri, Nánakmatta and Bilheri. The head-quarters of the district are at Naini Tál from May until November, during which months the extremely unhealthy character of the climate of the Tárái makes it impossible for any European and many natives to remain there. The Superintendent is the chief Civil Officer, and he is aided by an assistant and two honorary Magistrates, one for the Káshipur parganah and one for the three parganahs of Bázpur, Gadarpur and Rudrpur. Regnlation IV of 1876 provides that the Tarái district shall not be subject (*a*) to the jurisdiction of the courts of Civil judicature constituted by the Regulations of the Bengal Code and by the Acts passed by the Governor-General in Council; (*b*) to the jurisdiction or control of the courts or offices of revenue constituted by the said Regulations and Acts; (*c*) to the system of procedure prescribed by the said Regulations and Acts for the said courts of civil judicature and courts of revenue: or (*d*) to the civil jurisdiction of the High Court of Judicature for the North-Western Provinces. It further prescribes rules for the trial of civil suits; for the trial of revenue suits, regular and summary, and for the transfer by the Local Government of any civil or revenue suit or appeal from any of the local courts to the High Court of Judicature for the North-Western Provinces or to any other court in the North-Western Provinces. In civil and revenue cases an appeal lies to the Commissioner of Kumaun, and in criminal cases the courts are under the supervision of the High Court of Judicature for the North-Western Provinces.

[1]The area of each parganah is estimated as follows in acres:—Káshipur, 119,599; Bázpur, 71,205; Gadarpur, 44,819; Rudarpur, 97,349; Kilpuri, 83,813: Nánakmatha, 51,186, and Bilheri, 121,388 acres. I have to thank Messrs. Macdonald and Kilvert, of the Tarái district, for the greater part of this notice.

General appearance.

To the north, the boundary is defined for the most part by a series of springs which burst from the surface where the Bhábar (*q. v.*) or waterless tract ends; elsewhere the boundaries have no marked natural features. The general surface of the tract presents the appearance of a plain with a slope towards the south-east. Towards the north, there are patches of forest which are thicker and larger towards the east, or savannahs of luxuriant grasses and reeds. Cultivation has, of late years, made rapid progress from the south towards the line of springs on the north, but there still remain considerable tracts suitable only for grazing purposes. The whole of the Tarái is intersected by numerous streams and water-courses, the former bringing down the drainage from the hills, the latter carrying off the water which rises to the surface in the Tarái itself. The general slope has an average fall of twelve feet in the mile. It undulates from east to west, rising and falling as it leaves and meets the beds of the streams and drainage channels. The undulations to the north are small and decided, whilst to the south the country is more level and the distance between the river-beds increases. The spring level varies with the undulations; in the hollows, stiff clay land is met with, whilst the rising and upper land contain both sand and loam. The culturable area may be set down at 463 square miles, of which 280 are under cultivation. The soils are chiefly *dúmat* or loam, *mattiyár* or clay and *bhúr* or sand and clay: the *mattiyár* predominates.

Drainage system.

The drainage-system of the Tarái comprises, first, those streams which flow direct from the Himálaya, and, secondly, those which are fed by springs rising in the Tarái itself. Some account of the phenomena has been given in a previous volume[1], and it will not be necessary to refer to the details of the system here again. On the extreme east is the Sárda (*q. v.*) and on the west the Peli. Neither of these rivers have broad beds like the Ganges nor do they present any peculiar features. Continuing from east to west we have the Saniya, Deoha, Sukhi, East Bahgul, Kichaha or Gaula, West Bahgul, Dubka, Gugi, Naiya, Kosi, Bahilla, Dhela and Phíka. Most of these rivers have their sources in the hills and are subject

[1] Gaz. X.

during the rains to heavy floods. The Deoha becomes navigable for boats and rafts from near Pílíbhít, but none of the others, save perhaps the Kosi, carry sufficient water to allow of their being utilised for boat traffic. There are numerous small streams between each of these rivers which are used for irrigation. With the exception of the Sárda, they all are tributaries of the Rámganga, which falls into the Ganges in the Hardoi district. The drainage system as a whole resembles the reticulations of a leaf, the rills on the edge of the moist country unite to form a streamlet, these again form the streams which feed the arterial lines of drainage and all eventually join the great midrib stream, the Rámganga.

Canals.

From the earliest times the Tarái streams have been used for irrigation. The simplest and most common procedure was to construct dams where required across the streams, but the results in the end were ruinous both to the land and the climate. The soil became water-logged and gave rise to a severe form of malarious fever which carried away the majority of the inhabitants. The streams being diverted formed immense swamps and swallowed up the arable land. Mr. Fleetwood Williams, C.S., endeavoured to combat the evil and was succeeded by Captain Jones in 1849-51. The Mutiny supervened, and although much had been done, it was not until 1861 that the present system of canals was taken in hand and attention was really given to the reclamation of the swamps in the district. Under existing arrangements, the Irrigation-branch of the Public Works Department has control over all waters between the Sárda on the east and the Baraur on the west, comprising the parganahs Bilheri, Nánakmatta, Kilpuri and a great part of Rudarpur. In the two first-named parganahs the irrigation is not carried on directly by the Department; there is plenty of water and the people are allowed to take whatever quantity they wish, provided they do not interfere with the natural drainage lines and thus create swamps.

The Eastern Bahgul system of canals provides for the irrigation of the Kilpuri parganah and the Maina-Jhúndi portion of Nánakmatha, and is then carried on into the Pílíbhít and Bareilly districts. Next comes the Kichaha and Paha systems, with which

the control of the water by the Irrigation Department ceases. Continuing west, the Tarái runs with the Rámpur State and the various streams are under the immediate control of the Superintendent, subject however to agreements with the Nawáb of Rámpur where they pass from the Tarái to the Rámpur State. Across the border the system of earthen dams, which formerly obtained in the Tarái itself, still continues, and the portions of the parganahs running along this border suffer greatly from fever. Every endeavour has been made to induce His Highness the Nawáb to discontinue this, in every sense of the word, wasteful system of irrigation, but without avail. At a no very heavy expenditure, a proper system of canals with due regard to the features of the country might be introduced, resulting in a much larger supply of water and the improved health of the people. In the Káshipur parganah an admirable system of irrigation has been introduced by Mr. J. C. Macdonald, which protects nearly the whole of this parganah proper from the effects of drought and assists many villages in the Morádábad district as well. The Tarái is indebted to the unceasing efforts of this officer, spread over a period of 25 years, for the vast improvements effected in the irrigation of the country, as indeed also for improvements in every branch of the administration of this peculiar tract. Where the land is owned by Government as landlord, the rent and water rates are consolidated; the ordinary revenue officials supervise the arrangements for irrigation as a part of their ordinary duties, and thus no separate establishments are necessary. In parganahs Kilpuri, Rudarpur and Káshipur, the water rates are as follows:—

Class.	*Flow.*	*Lift.*
	Rs. a. p.	Rs. a. p.
I.—Garden and orchards per crop	2 0 0	1 0 0
II.—Sugarcane, tobacco, opium first watering (*a*) ...	0 8 0	(*b*) 0 4 0
III.—All cereals, pulses, oilseeds, first watering (*c*) ...	0 4 0	(*d*) 0 2 0

(*a*) Increasing 4 annas each subsequent watering.
(*b*) and (*c*) Ditto 2 ditto ditto ditto.
(*d*) Ditto 1 ditto ditto ditto.

Communications.

The principal roads in the district are (1) the road running due east and west from the Sárda river to the Bijnor boundary which connects all the parganahs and is in length about 90 miles; this is a second class unmetalled road, raised and bridged except over the larger rivers;

(2) the Morádabad and Naini Tál line, which runs through the Bázpur parganah for a distance of 21 miles and is a second-class road; (3) the Bareilly and Naini Tál line 13 miles in this district; a first-class road, metalled and bridged throughout with a new girder bridge of 3 spans of 100 feet over the Kichaha river replacing the old masonry structure which was destroyed by the floods of 1880; nearly parallel to this road runs the Bareilly and Kumaon light railway, now open for traffic; there is one station in this district, at Kichaha; (4) the Morádabad and Ránikhet line, which leaving the Morádabad and Naini Tál road at Darhiyál passes through the Káshipur parganah and thence to the hill mart of Rámnagar; it is a second-class road. There are numerous cross roads, of more or less importance, connected with the main lines above noted and the communications are ample for the convenience of the people.

Climate.

The climate of the Tarái differs from that of the plains country adjoining, chiefly in variations of temperature between the day and night which are due to the nature of the soil, and are the proximate cause of the heavy sickness which attacks the inhabitants of the tract at the commencement of the hot and towards the end of the rainy seasons; the average rainfall is about 50 inches. It is noticeable that the type of fever prevalent at the commencement of the hot weather is 'remittent,' whilst that of the later months is 'intermittent.'

Products. Animals.

The wild animals found in the district are those common to the whole Sub-Himálayan tract, such as elephants, tigers, leopards, hyænas, sloth-bears and pigs. Deer abound, the *jarau*, swamp, spotted-deer, hog-deer, *nílgai* and antelope; the four-horned deer is also sometimes met with. Of game birds the peacocks, florican, black-partridge and jungle-fowl are numerous. Of domesticated animals, the cow, buffaloes and ponies are bred in numbers, but generally of an inferior quality and they consequently do not fetch high prices. The climate of the tract affects animals as well as human beings, so that the cultivators have to provide themselves with a cheap and hardy class of cattle which is more suited to their means and to the climate. Fish of various descriptions are

plentiful and are much appreciated, as food, by the Thárús and Bhuksas, the so-called aborigines of the tract. Professional fishermen of the Dhímar caste are not numerous and generally follow some other occupations in addition to fishing. Most classes eat fish, though it is not a favourite or coveted article of food with any large class except Thárús and Bhuksas.

Agriculture.

The mode of husbandry is ruder than in the lower plains country; the soil, being naturally fertile, yields a satisfactory outturn with very inferior cultivation, and this fact, combined with low rents, is the chief attraction to an immigrant. Formerly the Tarái was essentially a rice-producing country; the late dry seasons, however, have encouraged *rabi* cultivation, or other *kharíf* crops, than rice. The Thárús and Bhuksas still look to rice as their staple crop. There is still a large area of waste land, and no pressure of population on the land is felt. Applicants for land, in the northern portion of the district, are increasing, but cultivation of the waste pasture lands, of which there are about 150 square miles, is discouraged. Owing to the increase of cultivation in the Bhábar tract, large herds of hill cattle, which formerly grazed within its boundary, are now forced to come into the Tarái for grazing; numerous flocks of plains cattle have here also to find pasturage, so that a line at which cultivation must cease has had to be drawn.

Principal crops.

The following crops are grown in the district:—Rice, wheat (red), barley, joár, bájra, maize, gram, peas, mustard, linseed, sugarcane, cotton, tobacco and melons. Ginger, red pepper, turmeric and hemp are also cultivated, but to no great extent. For the rice crop there are three times of sowing, which are known as the *gája*, *bijhuwa* and *rasauta* sowings. The first sowing commences in April or May, when the finer sorts only are sown, and the reaping takes place in September, with an average yield of about 640lb. to the acre from 40lb. of seed. The second or *bijhuwa* sowing commences in June, and the third or *rasauta* in July; the outturn being respectively about 1,120 and 880lb. per acre. The species known as *hansráj*, *bánsmatti* and *sonkharcha* are only sown with the *rasauta* and reaping goes on from the end of October until the end of November.

Mode of cultivation.

Owing to natural capabilities of the soil, the outturn is so satisfactory that manure is hardly ever thought of: in fact the soil seldom requires it. A large holding for a peasant cultivator would here be considered fifty acres; a middle-sized one, twenty acres, and a small one, six acres. Taking the average stock of a peasant, he will possess two ploughs, employing four to six bullocks, and will cultivate, exclusive of two-crop land, twelve acres of *kharíf* or rain crops and four acres of *rabi* or cold-weather crops. The gross value of the produce, based on an average of five years in the last decade, is estimated as follows:—*Kharíf* crop, Rs. 163; *rabi* crop, Rs. 68; total Rs. 231, from which must be deducted the expenditure on seed, cattle, implements, and rent of Rs. 126, leaving a profit of Rs. 105 a year. The work of weeding, watering, cutting and threshing the crops will be done by the family, the value of whose labour cannot be usefully estimated.

Forests.

The Tarái forests do not contain any valuable timber or any worth preserving beyond the occasional patches of *khair* (*Acacia catechu*) and *sisu* (*Dalbergia sissoo*) found in Bilheri and the islands of the Sárda. The timber that is most common is *haldu* (*Adina cordifolia*) which though of fine appearance is useless as a building or cabinet wood. The *sál*-covered patches, some of which run several miles into the plains are worthless as timber-producing reserves, the young trees, in common with all *sál* (*Shorea robusta*) grown in the plains, becoming rotten at the core before they arrive at maturity. The only *sál* exported is cut either immediately at the foot of the hills or more generally on some small eminence. It was, doubtless, owing to these considerations that the Tarái forests were removed from the control of the Forest Department in 1865 and were placed under the Superintendent of the Tarái. A small tax is now levied on the export of forest produce and the proceeds are appropriated to the general improvement of the district. The levying of these dues has been recognised formally and has been declared, at successive settlements, to be vested in Government.

Building materials.

With the exception of bricks, all building materials have to be carted from the foot of the Kumaon hills, and are therefore expensive. Bricks, made in the district cost, for the nine-inch brick, Rs. 900 per lakh, and

for the small native brick Rs. 125. Both native kilns (*pajáwas*) and flame kilns are used. The limestone from quarries at the foot of the hills is almost invariably used for lime; it yields a very strong and white lime which is peculiarly suited for fine plaster work and costs about 14 annas per 82lb. Kankar in any quantity is not procurable. For large works, or where there is exposure, *sál* timber is used; its cost, at the forest depôts, is from Rs. 2 to Rs. 2-12-0 per cubic foot, so that when worked up, including carriage, the rate comes to Rs. 2-8-0 to Rs. 3-4-0 per cubic foot. *Haldu* is much used for unexposed work as light rafters and planking, but does not answer for beams.

Population.

The population of the Tarái, excluding Káshipur, which was not annexed until 1870, numbered 67,187 souls in 1854. In 1865 there were 91,802 inhabitants, of whom 51,993 were males and 39,809 were females, and distributed according to religion, 57,918 were Hindús and 33,884 were Musalmáns, giving 125 inhabitants to the square mile. In 1872, there were 185,813, or nearly 202 to the square mile, and in 1881 there were 206,993, or 220·7 to the square mile, of whom 113,315 were males and 93,678 were females. Distributed according to religion there were, in 1881, 131,966 Hindús (59,395 females) and 74,979 Musalmáns (34,263 females) and 48 others not being of those religions. Of the total males, 55,328 are recorded as agriculturists. The increase in the population over the census of 1872 amounted to 10·4 per cent., notwithstanding the great death-rate from fever and bowel-complaints. Of the males, 51,634 were unmarried, 52,424 were married and 9,257 were widowers. Of the females, 28,659 were unmarried, 49,424 were married and 15,595 were widows. The Musalmáns are almost entirely Sunnis. There are 565 towns and villages, of which there are two having a population above 5,000; two between 2,000 and 3,000; 15 between 1,000 and 2,000; 87 between 500 and 1,000, 241 between 200 and 500 and 218 under 200.

Houses.

The ordinary mud hut, generally common throughout Rohilkhánd, is found in the greater portion of the district. It is built at a cost of about seven rupees, for the walls three rupees and for the grass roof four rupees. The Thárús and Bhuksas, however, build their houses of mud and

wattles, taking particular care in their construction, so that damp is much less felt in such structures. The whole construction is done by the owner and his family, the cost of whose labour cannot be accurately estimated. In the towns of Káshipur and Jaspur alone are there brick-built houses; the cost of construction depends entirely upon the means and taste of the owner. The average number of occupants to each house, among both urban and rural inhabitants, may be placed at four persons.

Customs.

There are no customs peculiar to the district itself; panchâyats are resorted to by the Thárús and Bhuksas and the lower classes generally, but even amongst such distrust in this method of settling disputes is daily gaining ground.

Education.

The schools in the district are tahsíli and halka-bandi or village schools, aided and indigenous. The arrangements are made by the local educational committee and are generally under the supervision of the Inspector and his Deputy.

Language and religion.

The language of the peasantry is Hindi, and although the Thárús have a patois and accent of their own, it is not sufficiently marked to be called a separate dialect, and people of other classes easily understand them. Musalmáns are increasing in numbers in the district, and consequently the religion of Islám is on the increase, but there is no sign of any conversion to that creed from amongst Hindu castes. There is evidence at the present time of a religious movement amongst the Thárús. They appear dissatisfied with the teaching of the Brahmans and are seeking information regarding other creeds. The Christian religion is not acceptable chiefly because it seems to bring with it expenses they are unable to incur; the creed of Islám, as authorizing the killing of kine, is altogether unacceptable; and were but a teacher of the tenets of Buddhism to appear, it is highly probable that the Thárús would become converts to that form of religion.

Police and crime.

During the year 1883 the following offences against persons and property occurred:—dakaiti, 2; robberies, 32; burglaries and thefts, 149. The value of property stolen amounted to Rs. 8,739, and of this sum Rs. 4,173 were recovered. Of 327 cases cognizable by the police, 252 were enquired into, and in 105 cases conviction followed; and of 265

persons that were tried, 190 were convicted, so that it may be safely said crime is light in the Tarái. Cattle-thieving, which formerly was the scourge of the district, is now very much on the decrease. The old gangs of Ahirs, Gújars, Mewátis and Kasáis have been broken up, and though raids from the Rámpur State do occur at times, they are not conducted with the same amount of skill. The facilities for eluding pursuit still remain: the border of the Native State is so soon crossed, that the chances are greatly in favour of the thieves as against the police; the work of the latter, therefore, cannot compare favourably with that shown by other districts not similarly situated.

Medical aspects of the district.

Malarious fever is the only endemic disease prevalent in the district. The natural dampness of the soil, combined with great variations of temperature between the day and night, is the apparent cause of this form of disease. During the rains malaria does not, as a rule, appear to be active, but at the commencement of the hot weather and after the rains have ceased well on into the colder months, it occurs in its most virulent forms. During the year 1883, 10,005 deaths were registered—

Fever.	*Small-pox.*	*Bowel complaints.*	*Cholera.*	*Other causes.*
8,614	414	788	3	186

making an average mortality of 45 per mille. There were 5,183 vaccine operations during that year, of which 4,339 were successful, 254 unknown and 590 unsuccessful. There is only one dispensary in the district, though at each tahsíl medicines are distributed by compounders, and in the eastern parganahs much relief is afforded by the Bihári dispensary in the Bareilly district. At the Káshipur dispensary, which is under an assistant surgeon, 7,918 patients were treated during the same year, at a cost of Rs. 2,270 defrayed from local funds.

Cattle-disease.

Cattle epidemics are frequent and in some years, owing to the large herds which resort to the Tarái for grazing, the deaths are very numerous. The most common disease is known as *chira*, a kind of dysentery for which there is no certain remedy. It generally commences when the rains cease and continues until January. Foot-and-mouth disease also at times attacks the cattle. The epidemics are to be attributed to the climate and want of care in protecting their stock on the part of both cultivators and graziers.

The total land revenue as it stood in 1883 was Rs. 1,66,801. The incidence on total area was Rs. 0-4-5, on cultivated area Rs. 0-14-1, and on the culturable area Rs. 0-7-2. Save in the parganahs of Káshipur, Nanakmatta and Mainajhundi, the proprietary right is held by Government alone. Parganah Káshipur has been settled for some years: Nanakmatta and Mainajhundi are under settlement at the present time, but the proceedings are not sufficiently advanced to admit of reliable data being given. The general history of the tract has already been given, and here it is only necessary to describe more fully the Káshipur parganah, which was annexed to the Tarái in 1870.

Fiscal history.

Káshipur, a parganah of the Tarái district, is bounded on the north, by the Kumaon Bhábar and Bijnor district; on the south by the Morádabad district and the Rámpur State; on the east by parganah Bázpur of the Tarái district and the Rámpur State, and on the west by the Bijnor district. Irregular in form, it affords very diverse physical features. The slope from the Kumaon-Bhábar in a south-easterly direction is marked, falling about six feet in a mile. The general appearance presents a succession of gentle dips and rises so widely spread as often to be scarcety perceptible to the observer except from the varying crops which meet the eye, rice in the dips, and cereals, sugarcane and cotton on the higher and drier plateaus.

The Kosi and Dhela are the principal streams, the former on the east the latter in the centre. Each imparts a special character to the surrounding country. On the extreme west are the Phika and Peli, smaller streams, but still of sufficient magnitude to distinctly influence the country through which they flow. The number of minor streams is legion; the chief, however, are the Bahilla between the Kosi and the Dhela; the Tumaria, Dándi, and Lapkana intersecting the country between the Dhela and Jaspur. With the exceptions of the Phika and Peli these streams are all perennial. There are no metalled roads in the parganah; the means for locomotion however are sufficient. All the roads radiate from Káshipur town. One runs west to Jaspur, where it bifurcates, one branch going by a

Streams.

Communications.

north-easterly route to the hill mart at Rámnagar, the other making for Bijnor, through the Afzalgarh parganah. Another proceeds to Thákurdwára; a third, north and south, going to Rámnagar and Morádabad respectively; a fourth due east to Bázpur; and a fifth south-east to Rámpur. These roads are passable for carts nearly all the year round, though during heavy rains and floods, traffic is for a short time suspended.

Irrigation.

There is no well-irrigation in the parganah, and on the Jaspur side there is virtually no irrigation except in one or two villages, where it is obtained by damming up the Lapkana stream. The available irrigation is confined to the Káshipur side, east of the Tumaria. Formerly, as in the rest of the Tarái, water was obtained from the various streams by means of earthen dams, and the result was extensive swamps which intensified the malarial nature of the country. This has happily now been put a stop to almost entirely under the management of the present Superintendent of the Tarái. Most of the dams have been removed, and by a system of masonry head-works and falls, with proper levels, the streams are now running in their old beds and doing their proper drainage duties. The canals constructed are entirely self-supporting and have paid their own way from the day they were commenced, leaving a large sum for more extended lines. On the Káshipur side of the parganah, hardly any portion now remains unprotected from the effects of drought.

Climate.

The average rainfall for a series of years is shown to be from 35 to 40 inches. The extreme southerly portion of the parganah is fairly healthy; the north-eastern corner is the most pestilential. Here the evil effects of the old irrigation system are still evident, though matters in this respect are rapidly mending, and the natural features of the country too are against a salubrious climate: the land lies low, the soil is a stiff clay, and during the rainy season becomes waterlogged.

Population.

There are only two towns in the parganah, Káshipur and Jaspur; in these markets are held twice a week, they have respectively a population of 14,667 and 7,055. By the last census of 1881 the population of the entire parganah was 74,973, (40,347 males and 34,626 females), being

an increase of 3,194 since the previous census of 1872. The total area of the parganah is 187 square miles, so that the incidence of population is about 400 to the square mile. Of the entire populations 49,263 were Hindús and 25,710 Mussalmáns.

Tenures.

The prevailing tenure is zamíndári, *viz.*, undivided ownership. There are 157 zamíndári villages, 14 perfect pattidáris and 12 imperfect. The latter are chiefly those of Chauháns, Ahírs and Játs, who invariably sub-divide wherever they own ancestral property and have a numerous family. There are 128 resumed muáfi plots, 69 subordinate properties and 28 revenue-free plots. No entire muáfi village is to be met with. Of the 250 maháls or estates in the parganah Hindús own 192, Musalmáns 48, and the Government 10.

The distributions of these properties amongst the various branches of the Hindu and Musalmán communities is thus shown :—

Caste or class.		No. of proprietors.	No. of maháls.	Area in acres.
Hindús ...	Thákur ...	110	37	22,336
	Chauhán ...	346	35	14,829
	Brahman ...	63	17	13,776
	Baniya ...	58	18	6,502
	Ját ...	76	32	6,060
	Ahír ...	66	13	4,866
	Khatri ...	14	5	1,489
	Káyath ...	5	3	563
	Others ...	276	30	13,639
	Total ...	1,014	190	84,060
Musalmáns ...	Shaikh ...	84	22	9,617
	Pathán ...	50	16	5,593
	Sayyid ...	3	3	1,898
	Kain ...	10	2	808
	Others ...	80	7	2,632
	Total ...	227	50	20,548
Government and other co-sharers.		13	10	16,125
GRAND TOTAL ...		1,254	250	120,733

Fiscal history.

This parganah is singularly sensitive to variations of seasons and the climate is varying and not uniform even throughout the parganah. Each year brings a greater or less visitation of fever. Exceptional seasons, by the climatic changes induced and the altered amount and quality

of food, affect the people injuriously. With these drawbacks the peasantry are not so flourishing as could be wished, but the special care which is now given to removing causes of unhealthiness must in time improve their condition. Up to the year 1844, Káshipur and Jaspur were separate revenue divisions with distinct settlements, and formed parts of the Moradabad district. On the 1st May, 1844, the revenue divisions of the Morádabad district were re-arranged: Bazpur, Káshipur and Jaspur along with sundry villages from Thakurdwára, Sarkara, Morádabad and Afzalgarh were constituted into one parganah under the name of Káshipur. Shortly before the mutiny, Bázpur was transferred to the Tarái, then in the Kumaun Division. In 1860, a number of other villages were transferred to the Tarái and in the same year the tahsíls of Káshipur and Thákurdwára were amalgamated, the headquarters being fixed at Thákurdwára. In October, 1870, the entire parganah of Káshipur proper was transferred to the Tarái and the Tarái district as then constituted became a district of the Kumaun Division.

Mr. D. M. Smeaton, who conducted the recent settlement of parganah Káshipur, sketches the fiscal history of the two tracts, Káshipur and Jaspur, as if they had been all along, as they now are, parts of the same parganah, because the previous settlements, though distinct, were made at the same time, for the same periods and under exactly similar circumstances. Mr. Smeaton in his rent-rate report gives the following account of the previous settlements. "Prior to Mr. Money's settlement under Regulation IX of 1833 there had been eight assessments of the revenue, which may be thus enumerated:—

(1)	The first triennial	...	...	...	1210 to 1212 fasli.
(2)	Second ditto	...	...	...	1213 to 1215 ,,
(3)	The quartennial	...	...	...	1216 to 1219 ,,
(4)	The quinquennial	...	...	...	1220 to 1224 ,,
(5)	Four periods of partial extension and alteration up to...				1244 ,,

These were, however, merely summary assessments of revenue and were made upon no recognized principle. Mr. Money when making his settlement determined to have revenue rates only, and he fixed the revenue on the whole parganah at Rs. 1,02,367, the incidence being on the cultivated area Rs. 2 per acre, which made the incidence of his estimated rental approximately Rs. 3-6-0 an acre. During the period from 1245 to 1283 fasli, *i.e.*, 1838—1876

eight mahâls, parts of four villages, were sold for arrears of revenue and purchased by Government, certain other villages being held under direct management. During the currency of the last settlement the price fetched for land is thus shown :—

		Rs.	a.	p.	
In 1839—Private sale	... ...	2	4	11	per acre.
Mortgage	... ...	0	12	10	,,
Auction	... ...	0	3	2	,,
In 1875—Private sale	... ...	9	2	0	,,
Mortgage	... ...	8	14	4	,,
Auction	... ...	8	1	0	,,

Land may be said to have quadrupled in value since 1839, and this shows that the country has made subtantial progress. The new settlement made by Mr. Smeaton runs from 1879 and has recently been finally sanctioned by the Government of India for a period of 25 years. The revenue fixed is Rs. 1,05,388.

The increase of cultivation is about 12 per cent. as compared with the area under cultivation at the time of the last settlement. The present and former state is shown in the following table :—

Settlement.	Total area in acres.	Revenue-free.	Barren.	Assessable area.				Total.
				Culturable		*Cultivated.*		
				Old waste.	New fallow.	Irrigated.	Unirrigated.	
Present...	120732·99	619·36	9691·97	48236·31	4983·23	5081·30	52120·82	57202·12
Former...	106995·00	2518·00	25329·00	24847·00	3142·00	9201·00	41958·00	51159·00

The distribution of the various kinds of crops is thus shown for the present settlement :—

Kharíf:	Area in acres.	Rabi.	Area in acres.	Double crops.	Area in acres.
Rice ...	18,156	Wheat ...	11,908	Rice, wheat and barley.	2,722
Sugarcane ...	3,526	Gram ...	1,752	Vegetables, &c.,	8,523
Cotton ...	2,434	Barley ...	623		
Mung, másh ...	2,129	Other kinds,	1,931		
Other kinds ...	3,949				
Total ...	30,194	Total ...	16,214	Total ...	11,245

From 1841 to 1876 the rise in prices of grain amounted to nearly 60 per cent., as will be seen by the following table :—

	Wheat.	*Gram.*	*Barley.*	*Rice.*	*Moth, bájri.*	*Múng, másh.*
1841 ...	38	33½	48½	53	36	30
1876 ,,.	19	21½	31½	28½	22½	19½

In a country where grain rents prevail the profits to land-holders have naturally been greater than to the cultivator.

The population of the parganah is about 34 per cent. greater that it was in 1848. In 1848, 5,5596; 1852,[1] 84,999; 1865, 73,919; 1872, 71,412; 1881, 74,979.

The following table shows the way in which, at the present time, the lands are held by the agricultural community, including proprietors who cultivate and simple tenants of all classes:—

Sort of holder.	Number of persons.	Area in acres.	*Money-paying area.*	
			Area.	Rent.
			acres.	Rs.
Sír-holders	437	4,460·81	80·75	213
Cultivating proprietors	134	600·46	11·20	35
Padháns (head tenants)	117	1,145·00	373·66	977
Occupancy tenants	7,519	30,075·70	5,189·12	17,972
Tenants-at-will...	5,454	21,175·28	2,230·31	8,551
Holders of service lands	285	195·95	...	...
Total	13,946	57,653·20	7,885·04	27,748

The home-farm area is comparatively small; occupancy tenants hold more than half the entire cultivation, while tenants-at-will are in possession of nearly 40 per cent. The money-paying area is not much more than one-eighth of the whole, and the total money rental falls at about Rs. 3-8-0 per acre, or nearly 9 annas per village bigha. The crop rates, which are current upon the grain-paying area, vary between one-half and one-eighth; but the chief rates are one-third (tihára), two-fifths (pachkúri or pachdúa), and one-fourth (chauhára). The occupancy tenant and the tenant-at-will hold, on an average, nearly the same area, *viz.*, about four acres.

[1] This census was very faulty and cannot be relied on.

Tikhún, a sub-division of parganah Bárahmandal, was divided into two pattis at the recent settlement, the Malla and Talla. The statistics of both may be shown thus :—

Tikhún.	Assessable area in *bísis*.				Assessment in rupees.				Incidence per acre on		Population.	
	Total.	*Cultivated.*		Culturable.	1815.	1820.	1843.	Current.	Total area.	Cultivation.	Males.	Females.
		Irrigated.	Dry.									
									a. p.	Rs. a. p.		
Malla...	2,976	27	2,212	737	626	1,278	1,564	2,652	14 3	1 2 11	2,021	1,859
Talla ...	3,357	40	2,649	668	897	1,287	1,480	2,995	14 3	1 1 10	2,746	2,432

Tikhún stretches from Bhainskhet to Siyáhi Devi. In olden times, it formed the estate of a Khasiya Rája who had his fort in Tikhúnkot, but he with the others fell under the Chands in the sixteenth century. The patwári of the Malla patti resides in Bhainskhet and of the Talla Patti in Dhamus.

Tíhri, in patti and parganah Bangarh of Tíhri Native Garhwál, is situated on the left bank of the Bhágirathi in latitude 30°-22′-54″ and longitude 78°-31′-3″ at an elevation of 2,278 feet above the level of the sea. The Bhilang joins the Bhágirathi a little above the town on the left side. In 1808 it was a small village, and until 1815, when Rája Sudarsan Sáh took up his residence here, it was little better. In 1819 the only remarkable building was the Rája's residence, subsequently exchanged for a more extensive one, but still having no pretensions to architectural merit. The new town is built on a tolerably flat piece of ground formed by a bend in the Bhilang river just before it joins the Bhágirathi; near here both rivers for a short distance run almost parallel with each other. The population now amounts to about 2,000 souls. The Bhágirathi is crossed by an iron suspension bridge erected here in 1858 at the Rajá's expense on the Mussoorie road and there is a small bungalow for travellers. It is a very hot place, devoid of trees and surrounded by bare high hills. A broad road has been constructed up the Bhágirathi valley and hence by Mussooree to the Dún. The Bhilang contains a kind of trout which is snared in great numbers.

Tons (Northern) or Tauns, a river of Tihri which rises to the north of the Jamnotri peaks and but a few miles from the source of the Jumna flowing from the southern base of the same mountains in latitude 31°-5′, and longitude 78°-40′. The source of the Tons appears to have been first ascertained in October, 1819, when it was visited by Herbert, who found the stream to issue, thirty-one feet wide and knee-deep, from a snow-bed 12,784 feet above the sea and extending as far as the eye could reach. The course of the river is generally westerly for thirty miles, to the confluence of the Rúpin, on the right side, in latitude 31°-3′, longitude 78°-10′, and at an elevation of 5,300 feet. The declivity of the channel in that distance must be above 250 feet per mile; so that the stream is almost a cascade. It is from its source to this confluence with the Rúpin called the Súpin; but downwards the united stream is called the Tons. The Súpin is the larger of the confluents, though the Rúpin is described by Jacquemont as deep, nearly fifty feet wide, furiously rapid, and rushing along with a tremendous roaring. The Tons is about 120 feet wide and holds a south-westerly course of about nineteen miles to the confluence of the Pábar, on the right bank, in latitude 30°-56′, longitude 77°-54′: the Pábar is a large stream, though somewhat inferior in size to the Tons. From the confluence, the united stream, still called the Tons, leaves Garhwál and takes a generally southerly direction, forming for the rest of its course the line of division between the British parganah of Jaunsár and the Hill States of Jubbal and Náhan. Thirteen miles below the confluence of the Pábar, the Tons receives the Shalwi, a considerable stream, which flows into it on the right bank, in latitude 30°-48′, longitude 77°-49′. It thence flows about forty miles, in a course generally southerly, but very tortuous, through a succession of rugged ravines of limestone, to its junction with the Jumna, in latitude 30°-30′, longitude 77°-53, and at an elevation of 1,686 feet above the sea. As its total course is about 100 miles, it has the enormous fall of above 110 feet in a mile. Though below the junction the united stream bears the name of the Jumna, the volume of the Tons is much the greater, as, when surveyed by Hodgson and Herbert, it discharged 2,827 cubic feet in a second of time, while the amount discharged by the other river was only 1,045 (*Thornton*).

Uchakot, a patti of parganah Dhaniyakot in Kumaon, is bounded on the north by the Kosi river separating it from Chauthán and Kosyán Malla; on the west by Kosyán Talla; on the east by Simalkha and on the south by Kota Malla and Talla. The portions near the Kosi are inhabited. The assessable area comprises 1,574 *bísis*, of which 280 are culturable and 1,293 are cultivated (516 irrigated). The assessment in 1815 amounted to Rs. 1,022; in 1820 to Rs. 1,380; in 1843 to Rs. 1,530 and is now Rs. 2,279, which falls at Rs. 1-7-2 per acre on the total area and Rs. 1-12-2 per acre on the cultivation. The population at the time of settlement numbered 2,280 souls, of whom 1,145 were males. The patwári resides in Mallagaon, where there is a school.

Uchyúr, a patti of parganah Bárahmandal in Kumaon, lies to the east of Almora between the Sawál and Kumniya streams. Uchyúr in 1865 contained 3,161 *bísis*, of which 808 were culturable and 2,352 were cultivated (63 irrigated). The land-tax in 1815 yielded Rs. 508; in 1820, Rs. 746; in 1843, Rs. 944 and was fixed at Rs. 2,420 at the recent settlement, which falls at Rs. 0-12-3 per acre on the total area assessed to land-revenue and at Rs. 1-0-6 per acre on the then existing cultivation. The population numbered 4,542 souls, of whom 2,181 were females. The patwári resides in Nisune and there is a school in Dhaur.

Udepur Malla, a patti of parganah Ganga Salán of British Garhwál, consists of a long and narrow strip of land lying along the left bank of the Hiunwal river. The patwári of Dhángu Talla resident in Dhánsi collects the land-revenue. The southern portion of the patti is drained by the upper waters of the Rawásan Nadí flowing towards the plains, while the Hiunwal drains the northern portions and flows north-west into the Ganges. With the exception of the flats along the river the cultivated land is on steep slopes. The soil is rich and the rock (slate) decomposes rapidly, giving good soil on the steepest slopes. All three divisions of Udepur have improved much of late years.

Udepur Bichhla, a patti of parganah Ganga Salán, is bounded on the west and north by the Talla sub-division; on the east by the Malla portion, and on the south by Ajmer, Bijnor, and Chandi. There is a school at Thanúr. The southern portion consists of a mass of ravines and low hills whence flow the Mitti and Luni

torrents and the Rawásan, Máli and Málin streams. The present patti was separated from Udepur in 1864 and its statistics are given in Udepur Malla. At the settlement in that year it was assessed at Rs. 2,247 from all sources with a population of 4,549 souls. There is a patwári resident in Ranchula who collects the land-revenue. The principal cultivation lies in the heads of the Máljn and Rawâsan valleys which resemble the beds of dried-up lakes. The lower parts of these valleys are mere rocky gorges of sandstone now included in the protected *sál* tract under the Forest Department. The principal peaks are Mábigarh on the borders of Ajmer, 5,654 feet; Jaspálgarh near Sáling on the left bank of the Rawásan Nadi, 3,650 feet, and a peak on the same bank opposite Amola, 4,108 feet. The Sidhwála peaks at the extreme south-east in whose ravines the Teli Sot takes its rise, consists of three peaks, the principal being 3,464 feet and those on the left and right 2,719 and 2,775 respectively.

Udepur Talla, a patti of parganah Ganga Salán, is bounded on the north and west by the Ganges and on the south and east by the Bichhla and Malla pattis of Udepur and Dhángu Talla. There are schools at Dharkot and Atta. The patwári lives in Khera. This patti was not separated until 1864, when it was assessed at Rs. 2441 from all sources and had a population of 5,297 souls. The Tál Bheng and Bidásani streams carry the drainage of the southern portions of the patti into the Ganges. To the west it is traversed by the Hardwár and Srínagar road. The valley of the Tál is comparatively flat, but the left bank of the Hiunwal rather steep with some flats, and the rest contains some unhealthy sites.

Unta-Dhura, or Uta-Dhúra, a pass into Húndes from Patti Malla Juhar of parganah Juhar in Kumaon, lies to the north-east of Milam in latitude 30°-35′-0″ and longitude 80°-12′-20″, with an elevation of 17,800 feet above the level of the sea, 156 miles north of Almora. It lies over a ridge which is to the north of the main chain of the Himálaya and at right angles west from the dividing range between Kumaon and Tibet. Though inferior in height to the main range, it is elevated enough to necessitate a considerable ascent from the deep gorges of Kumaon. The crest of the ridge forms the boundary between Patti Malla Painkhanda of Garhwál and Patti Malla Juhár of Kumaon, and also the water-

parting between the streams flowing westward by the Alaknanda into the Ganges and those flowing eastwards into the Káli, as the Sárda or Ghágra is called in the upper portion of its course. Weller made the height of the pass from boiling-water 18,540, but he adds, this must be greatly in excess. The Great Trigonometrical Survey makes the pass 17,590 feet, the Bamlás peak to the west 17,880 feet and that to the east of the pass, 18,250 feet.

There are five small ridges of stone on the crest which look like pillars from below, and it is believed that any one who sleeps near them dies. A bitter, piercing wind blows here with such violence, especially during the rains, as to cause fatal accidents. Weller writes:—"The south-face and crest of the pass consists of a black soil, apparently the detritus of a black slate which latter is visible here and there below the soil. I was much disappointed with the view from the crest of the pass. The view southwards is very limited, Nanda Devi not visible; to the north-east and north a few hills are visible; to the north-west is a sea of hills moderately covered with snow (end of May) and hardly any of them appearing of great elevation. To the north-east are three bare hills, the first called Genti with behind it but not visible two other hills which have to be passed on the direct route to Chirchun." North is the Balchha ridge into Tibet and east the conical peak above the Girthi mine.[1] For the march hence to Balchha see the account of that pass. At the end of May (1841) Batten found the pass closed by heavy snow and encountered imminent danger in attempting to cross it. Webber found it completely closed with snow in the beginning of summer. Garden mentions an encamping-ground on the bank of a stream at the northern *dakhna* or foot of the pass where a few stunted bushes form the only fuel supply. He adds that the snow lies on the pass for eleven months in the year.

The journey from the hamlet of Bhúi on the Gori to the pass is described by Manson, who crossed it in September.[2] He started from Bhúi on the left bank of the Gori in patti Goriphát on the first and passed up the Rálam torrent. Some six miles up it receives an affluent from the east-north-east and a little higher up was crossed by a snow-bridge close to the Sába-udiyár or great cave. Thence along the bed of the river to within two miles of Rálam, which is 17 miles from Bhui and is colonised by Dárma Bhotiyas. There is a bad cross-path from Rálam to Sipu in Dárma by the Hardol or Lipu-ke-thán pass at all times difficult and dangerous. From the encamping-ground the track leads by a steep ascent to the top of the Birchigang pass, on which the rocks are composed of grey-wacke, clay slate, talc-slate, and near the pass a few blocks of quartz. During the ascent vegetation gradually decreased and towards the summit entirely disappeared and nothing but broken fragments of clay and talc-slate and quartz remained. The pass must be about 15,000 feet, the Rálam peak to the south rising to 16,290 feet. The descent to the bed of the Gori occupies a weary two hours and a half and a torrent is crossed by a *sangu* at Sumdu before reaching Tola (10,780 feet), a village of over 300 inhabitants, temperature of water 46°; air 51; wet bulb, 48°. Dwarf birch

[1] For Weller's journey from the Uta-dhúra to the Balchha pass, see BHOTIYA MAHÁLS. [2] J. A. S. Ben, XI,1157: this route is chosen when that along the right bank of the Gori is closed by accident or by inclement weather.

and rhododendron are the characteristic trees, and about Tola there is some level ground and cultivation, *ua-jau* being ripe. Hence to Burphu, five miles, the track is partly level along the sides of the mountain with numerous slips, and in some parts precipitous and dangerous. The rocks are less slaty and continue metalliferous. Burphu is situate in an open part of the valley with numerous fields around and is divided into two hamlets containing together 484 inhabitants. A fair-sized torrent is crossed by a spar-bridge and its waters are utilized for corn-mills. Here the track crosses the Gori by a spar-bridge and about two miles on the village of Mápa (95 inhabitants) is reached, the rocks being greywacke and clay slate with masses of quartz, and towards Páchhu the rock became a reddish-brown clay on the weather surface, but grey in the fracture. Páchhu (*q. v.*) is situate on the left bank of a small stream proceeding from a glacier on the eastern slope of Nanda Devi about three miles from Milam and possesses one of the best views of Nanda Devi to be had.

The Gunka is crossed by a spar-bridge opposite Milam, whence the road ascends by the left bank, passable, but in some places very bad: no grass, nothing but loose earth and stones; clay slate and grey silicious sandstone in masses and fragments; the general appearance of the mountains extremely barren, precipitous and shattered. The river in several places on either side is bounded by masses of earth and stone, the débris of the hills above which rise in numerous places into sharp peaks. Lying in the bed and along the sides of the river are large masses of conglomerate. During a thaw or a fall of snow or rain, the descent of stones is almost continuous, rendering the Gunka glen at that time very dangerous. Some of the stones are suspended on the top of the ravine precipices on little pointed peaks and their appearance on an avalanche day is not re-assuring to the traveller below. The encamping-grounds on the road between Milam and Dúng-udiyár are Jímgang, Samgang (12,030 feet), Sullong Talla (12,910) and Dúng (13,720 feet). Hence the track runs north-west to the foot of the Unta-dhúra pass at Jím, crossing the river over a bridge of stones which are piled on nearly a natural bridge of rocks; then in about half a mile to the huge Bamlás glacier. Crossing this found the Uta stream entering the glacier by an opening similar to that at its exit. The track continued along the base of the mountain to the north-west for a mile and a half with very little ascent, then turned north and commenced rather a steep ascent over a mass of white silicious rock, the débris of the mountain above. On reaching the summit came to another rather level piece of ground, but covered with fragments of a darker rock and a blacker soil. Then another ascent over the same kind of rock and soil and on reaching the top came in sight of the pass. A little further on crossed two snow-beds; the first two to three hundred yards wide, the second sixty to seventy yards wide. After crossing these the last ascent to the pass appears. Long before this all signs of vegetation had disappeared, and here the mountain was covered with small fragments of rock, clay-slate, &c. The strata of the heights to the right and left of the ascent were very much contorted in all directions. Manson was one hour and twenty-five minutes in accomplishing this last ascent, which he afterwards descended in twenty-five minutes. The summit of the pass is very rounded, and in some places the strata of clay-slate crops in nearly a vertical position, but dipping a little to the west-south-west many, indeed

almost all the fragments of rock up to the ascent, were very much intersected with veins of felspar. To the westward were seen some very lofty snowy peaks, but clouds concealed the view and to the north the Balchha (*q. v.*) range formed the horizon.

Urgam, a patti of parganah Nágpur in British Garhwál, is bounded on the north and east by Painkhanda Malla and on the west and south by Malla Nágpur. It comprises the valley of the Urgam river, which joins the Alaknanda on the right bank near Salna, where there is a bridge. The name is derived from the Uragas, a sub-division of the Nágas, whose rule is commemorated in the name of the parganah Nágpur. This patti was separated from Nágpur Malla in 1864. The patwári of Malla Painkhanda collects the land-revenue of this patti also.

Vishnuganga, a torrent which joins the Dhauli at Vishnuprayág, has two principal sources; of these the chief is the Sáraswati, which rises nearly from the crest of the Mána pass in the glaciers of the ridge which forms the boundary with Tibet. After a course of about twenty miles it is joined by the Vishnuganga, a stream of nearly equal size which rises in an immense glacier to the north-east of the great peak of Badrináth in latitude 31°-4′-0″ and longitude 79°-28′-0″. The Vishnuganga being the more sacred of the two gives its name to the united stream and is itself made up of three tributaries fed by three separate glaciers; the Sátpati to the south-west, the Pábigár to the west and the Supan or principal glacier to the north-west. The last comes down from a range called Pankwadáru constituted as shown by the boulders and débris borne along by the glacier of normal gray granite. After a course of some forty-three miles the Vishnuganga joins the western Dhauli at Bishnuprayág and the united stream is thereafter known as the Alaknanda. Nothing can surpass the desolation of the Saraswati valley from a few miles above Mána to the pass. A little below Badrináth, at about 10,000 feet above the level of the sea, an elevation at which elsewhere we find the forest in its greatest magnificence, all arboreal vegetation ceases, and after we pass, in the valley of the Sáraswati, a few miles further to the north of the lower limit of the belt of perpetual snow hardly a shrub or a blade of grass is to be seen. It is evident that nearly the whole of this valley was once filled with glaciers, and we now see

almost everywhere the remains of the ancient moraines in the accumulations of fragments of rock and débris which cover the bottom and the sides of the valley. It would be difficult to discover clearer evidence in any part of these mountains than this valley affords of the indisputable fact that an immense diminution has taken place in the snow and glaciers of the Himálaya. The Bhotiyas declare that the process is still going on before their eyes, the whole of the glaciers which come down from the lateral ravines into the valley of the Saraswati have receded far back from the points which they reached within the memory of man, and that parts of the road which were formerly almost impassable from accumulations of snow are now always open and easy during the summer months.[1] One of the more remarkable boulders forms a natural bridge over the Saraswati just a little above its junction with the Vishnuganga: see MÁNA: BHOTIYA MAHÁLS.

Vishnuprayág, or Bishnprayág, a halting-place on the road from Srinagar to Badrináth, is situate on the Vishnuganga river in parganah Painkhanda of Garhwál. There is a temple here built on a tongue of rock between the Dhauli and the Vishnuganga rivers, 1½ mile from Joshimath on the Mána road. Vishnuprayág is one of the five sacred junctions and forms a station on the pilgrim route. The scenery around is wild and rugged in the extreme, the mountains are bare and rocky and at the junction the Dhauli from its superior volume carries its stream unmixed for a considerable distance. There is a flight of steps cut in the rock to enable pilgrims to bathe in the Vishnuganga as the river is very deep and swift; bathers are obliged to hold on to iron chains and bars when bathing to prevent themselves being washed away; but even with this precaution a number of persons are yearly drowned at this spot. There used to be a wooden bridge over the Dhauli just above the junction, but the huge rock on the left bank on which a pier rested was washed into the river and there is now a rope bridge (*jhúla*). Badrináth is 16 miles distant from this place.

Waldiya Malla, a patti of parganah Sher in Kumaon, is bounded on the north by Seti Talla; on the west by the Rámganga (eastern); on the south by patti Rawal, and on the east by

[1] This is the fact, notwithstanding Traill's statement to the contrary in As. Res. XVII. 3.

Waldiya Bichla. It consists for the most part of precipitous hills with little cultivation. The statistics are given under the Talla Dúngara and Basti. The Patti. The patwári lives in Báns.

Waldiya Bichhla, a small patti of parganah Shor in Kumaun formed at the recent settlement from Patti Waldiya, is bounded on the north by Seti Talla; on the south by Waldiya Talla; on the west by Waldiya Malla and on the east by Seti Malla. The statistics are given under the Talla Patti. The patwári lives in Bajethi.

Waldiya Talla, a small patti of parganah Shor in Kumaon, is bounded on the north by pattis Waldiya Bichla and Mahar; on the west by Rawal; on the east by Saun and on the south by Gúmdes. A portion of the Pithoragarh and Lohughát, road passes through village Bhatyúra of this patti close to the Shor valley; but the greater part of it lies to the east of Thákil (8,161 feet), where a peak near Badbe rises to 7,039 feet and Bhamdona near Búnga in the north of the patti to 6,224 feet. The Chandrabhága stream flows along the eastern boundary in a southernly direction to its confluence with the Káli. The following statement gives the statistics of the Malla, Bichla, and Talla Pattis of Waldiya :—

Waldiya.	Assessable area in *bísis*.				Assessment in rupees.				Population.	
	Total.	*Cultivated.* Irrigated.	*Cultivated.* Dry.	Culturable.	1815.	1830.	1843.	Current.	Males.	Females.
Malla ...	534	115	143	275	60	105	128	450	270	217
Bichla ...	529	117	239	172	160	271	356	563	416	399
Talla ...	2,154	555	745	854	606	961	1,115	2,090	1,640	1,440

The incidence of the land-tax on the cultivated acre in each patti is Rs. 1-11-9 in the Malla, Rs. 1-9-3 in the Bichla and Rs. 1-9-8 in the Talla patti: on the whole assessable area the figures are Rs. 0-13-6, Rs. 1-1-0 and Rs. 0-15-6 respectively. The patwári resides in Bhatyúra, and there is a school in Mahar khola.

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